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The subscribers to this Journal, will be pleased to observe, that according to the terms of the publication, the subscription money for the ensuing year, is payable before the appearance of the next number. The subscribers are, accordingly, earnestly requested, to transmit their payments for 1827, sufficiently early to be received by the publisher, on or before the 1st of January next.

THE
NORTH AMERICAN
MEDICAL AND SURGICAL
JOURNAL.

CONDUCTED BY

HUGH L. HODGE, M. D. | CHAS. D. MEIGS, M. D.
FRANKLIN BACHE, M. D. | B. H. COATES, M. D.
AND
R. LA ROCHE, M. D.

NON DOCTIOR, SED MELIORE IMBUTUS DOCTRINA.

VOL. II.

PHILADELPHIA:
PUBLISHED BY J. DOBSON, AGENT
JESPER HARDING, PRINTER.

1826.

Eastern District of Pennsylvania, to wit:

BE IT REMEMBERED, that on the 31st day of March, in the 50th year of the Independence of the United States of America, A. D. 1826, Hugh L. Hodge, Franklin Bache, Charles D. Meigs, Benjamin H. Coates, and René La Roche, of the said District, have deposited in this office the Title of a Book, the right whereof they claim as Proprietors, in the words following, to wit:

"*The North American Medical and Surgical Journal. Conducted by Hugh L. Hodge, M. D., Franklin Bache, M. D., Chas. D. Meigs, M. D., B. H. Coates, M. D., and R. La Roche, M. D. Non doctior, sed meliore imbutus doctrina. Vol. II.*"

In conformity to the act of Congress of the United States, intituled, "An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the times therein mentioned;"—and also to the act, entitled, "An act supplementary to an act, entitled, "An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the times therein mentioned," and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints."

D. CALDWELL, Clerk of the Eastern District of
Pennsylvania.

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THE

NORTH AMERICAN

Medical and Surgical Journal.

JULY, 1826.

ORIGINAL COMMUNICATIONS.

Article I.—*Description of the Gangrenous Ulcer of the Mouths of Children.* By B. H. Coates, M. D. one of the Physicians to the Philadelphia Children's Asylum, &c.

Having had opportunities of witnessing the ravages and unmanageable character of this destructive disease, I have long and deeply felt the want of some written account, both of the malady, and of a proper mode of treatment. Some research and observation, made in consequence of this feeling, have terminated in the acquisition of more fixed ideas, and of a practice hitherto successful. This convinced me, that it became my duty to lay the result of these inquiries before the public, for the benefit of others. There is, perhaps, no stronger and more peculiar reason for wishing American physicians to write, than the opportunities they possess, of describing and recording many important varieties of morbid affection, which were either unknown to our predecessors, or the descriptions of which, uncombined and uncompared, are only to be found by searching among the more neglected tomes of a public library. Of this, the present case will afford a fair example; as well as an instance of an American physician, who had described the disease from nature, having, from want of encouragement, false modesty, or some other cause, kept it back from publication.

Ever since the establishment of the Children's Asylum, under the care of a committee of the guardians of the poor, of the city and liberties of Philadelphia, in the spring of 1819, this useful institution has been annually visited by the new and distressing scourge of which we are treating. It has here prevailed in a considerable number of cases, forming the principal source of anxiety and trouble during the winter season, and annually sweeping off its little victims, in a manner rendered peculiarly awful by its insidious approach, its loathsome effects, and its apparently uncontrollable progress. Various scattered cases of a similar affection have come within my knowledge, during the last few years; occurring in the practice of several physicians, as well as in my own. In no place, however, near Philadelphia, other than the above, has there existed, so far as I know, a sufficient number of cases at the same time, to enable a physician to examine it in much detail, or to make comparative trials of different modes of treatment, so as clearly to determine the most successful.

References to Authors.—The notices of this complaint given by authors, to which I have been enabled to refer, are few, and generally too scanty to supply much means of forming a satisfactory judgment, or a practice in which confidence can be reposed. They consist, principally, of the mere mention of an affection resembling that of which we treat; and, in some instances, it is even doubtful whether they are describing the same disease. No notice is taken of this affection in any of our common books; with the exception of the last editions of COOPER's Surgical Dictionary,* and of UNDERWOOD's work on diseases of children. It is there described under the erroneous title of *cancrum oris*. A reference is given to PEARSON's Surgery; and the article in the Dictionary is taken exclusively from that work. As this is the only authority with which I am acquainted, that gives a tolerably full account of a disease somewhat similar to that of which we are treating, I have concluded to extract the whole passage, in the words of the author.

"The canker of the mouth is a deep, foul, irregular, fœtid ulcer, with jagged edges, which appears upon the inside of the lips and cheeks; and is attended with a copious flow of diseased saliva.

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* Vol. I. p. 319, Anderson's edition.

"This disease is seldom seen in adults; but it most commonly attacks children, from the age of 18 months, to that of 6 or 7 years. When the ulceration begins at the inner part of the lip, it exhibits a deep, narrow, sulcated appearance, and quickly spreads along the inside of the cheek; which becomes hard, and tumefied externally. The gums are very frequently interested in this complaint, and, in such cases, the teeth are generally found in a loose and diseased state; matter is often found in their sockets, and abscesses sometimes burst externally through the cheek, the lip, or a little below the maxilla inferior: and it is not uncommon to see an exfoliation of the alveolar processes, or even of the greater part of the lower jaw. Among the children of poor people, where this disease is neglected or mismanaged at the beginning, a dreadful gangrene will sometimes supervene.

"The remote causes that give origin to this disease are not very obvious. I think it occurs most frequently among children that live in a marshy situation; that are sustained by unwholesome food; and where a due attention to cleanliness has been wanting. The cancrum oris has been described by some writers, as a complaint very common in England and Ireland, where it is sometimes epidemical among infants. It, however, is commonly seen in other kingdoms, and prevails more especially in those houses where a great number of children are crowded together. I am not able to determine whether it is or is not contagious.

"But adults are not wholly exempted from this morbid affection, and it is not easy in all cases, to distinguish the cancrum oris from a cancerous or venereal ulcer in the mouth; since the uvula, tonsils or fauces may be the seat of each disease. I have seen ulcerations on the uvula and tonsils, with all the marks of a venereal sore, in patients where the presence of such a virus could not be suspected; and by treating them as canker of the mouth, they have been speedily cured.

"The canker of the mouth ought to be distinguished from aphthæ, the epulis and parulis, scurvy, cancerous ulcers, venereal ulcers and exulceration from the use of mercury.

"*The mode of treatment.*—It will be proper,

"1. To remove the diseased teeth, bone, &c. if possible.

"2. To prescribe a milk and vegetable diet, and to allow a prudent use of fermented liquors.

"3. It will be adviseable to exhibit such remedies as, Peruvian bark; sarsaparilla; elm bark; mineral acids.

"The external applications that I have generally found successful have consisted of such as the following:

"*Preparations of copper;* a diluted mineral acid; burnt alum; decoction of bark with white vitriol; tincture of myrrh, &c."*

Of the above articles, those which we have indicated by italics are omitted in the last edition of COOPER's Dictionary; and, in a former one, they are directly prohibited with strong reprobation. Nevertheless, it is among these that we have found, beyond comparison, the most successful one.

Mr. PEARSON prefixes to the preceding article a list of synonymes, with references to authors, in the manner of writers on natural history. They are as follow: *Aphthæ Serpentes.*—SENNERTUS; Medicinâ Practicâ. *Labrosulcium, seu Cheilocace.*—ARNOLDUS BOOTIUS. *Oris Cancrum.*—MUYS. STALPAART VANDER WIEL. *Gangræna Oris.*—VAN SWEITEN. *Gangrene scorbutique des Gencives.*—Auctores Gallici.

Of these, SENNERTUS† merely mentions, under the article aphthæ, that the latter sometimes spread around the frænum and tongue, occasionally corroding the subjacent parts. He is so far from giving a clear description, under the head of Aphthæ Serpentes, of any affection analogous to that we are about to record, that he quotes GALEN as remarking, very properly, that these are not aphthæ at all, but putrid ulcers.

ARNOLD BOOTIUS, in his little treatise "de morbis omissis," of diseases omitted in the books, published in London, in 1649,‡ gives, from his own observation, an account of a disease, to which he applies the names above attributed to him. It differs from the cases which have attracted our attention, chiefly in its situation. He describes it as an ulcer, soon becoming black and fœtid, corroding the inside of both lips, separating them widely from the gums and allowing them to fall outwards upon the face; thus producing a horrible deformity. Besides this, the author states, that a deep fissure usually extended down each half of the inside of each lip; thus adding four deep and ghastly ramifications to the ulcer. This shocking affection is stated to have prevailed extensively, both in

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* Principles of Surgery; by JOHN PEARSON. Lond. 1788. p. 262, et seq.

† Opera omnia. Vol. II. p. 271. In the Loganian Library. ‡ Ibidem.

England and Ireland; in which latter country the author practised and held several important offices. It occasionally became epidemic, and then destroyed great numbers of children. It principally prevailed between 2 and 4 years of age; though it was occasionally met with both earlier and later in life. It was frequently, but not always, accompanied with aphthæ.

This disease was, in general, successfully treated by our author, with a decoction of "Chærephyllum, Quinquefolium, Myrrhis, Rosæ et Salvia;" in which was dissolved a "sat magna copia" of white vitriol.—A combination about as precise as some of the prescriptions which have been recommended to me, for the present disease, in this country. With this mixture, he touched the ulcers several times a day; and then washed them with a liniment of acetate of lead, aqua plantaginis, and oleum rosaceum. He also used *issues* in both arms; and confined the patient, in more obstinate cases, for drink, to a decoction of sarsaparilla, china, and several other articles, which we will spare our readers. To this disease, Bootius devotes about five small 18mo. pages, forming his tenth chapter.

Vander Wiel cites Bootius, and expresses his belief, that the disease described by the latter was identical with one which he saw himself. This last, however, though described in a cursory manner, appears to resemble much more nearly the disease of the Children's Asylum; beginning in the gums, and extending to the adjacent parts. He treats it by the following lotion:

R. Mel. Rosar.	℥i
——Ægyptiaci,	ʒij
Olei Vitrioli,	gtt. *aliquot.*
	misce.

Under this treatment, and by removing the teeth, when loose, the small number of cases he saw recovered in a few days.

Vander Wiel was a practitioner in Holland; and, though he does not specify the fact, his cases were probably in a marshy country.*

Muys, in a little treatise entitled "Chirurgia Rationalis,"† published in 1684, has an account of a disease, which is evidently supposed by Pearson to be that which he describes. This also, however, appears to have been a "labrosulcium;" an ulcer between the lips and the incisor teeth. There is but little to be gathered from his paper; as it is principally occupied with an attempt to prove, that this ulcer is owing to an accumulation of *acidity* in the blood, increased, at this point, by the putrescence of particles of food which collect there. He illustrates this doctrine by an examination of a *burnt rag* under a microscope; and this he considers as in a state analogous to the gangrene. "Opinionum commenta delet dies," &c. We give his treatment; which is aimed at acidity.

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* See Cornelii Stalpaart Vander Wiel Observationes Medico-Anatomicæ. p. 167. Note by the editor, P. Stalpaart Vander Wiel. Amsterdam, 1687. In the Loganian Library.

† In the Loganian Library.

R. Theriaci, - - - - -	ʒijss
Ung. Egypt. - - - -	ʒiss
Gum. Laccæ, et	
Spirit. Sal. *Armon.* aa -	℈ij
——— Cochleariæ, - -	ʒij

m. ft. ung.

To be softened with a little alcohol, the part washed with the mixture six times a day, and a rag moistened with the same compound left in the ulcer. Here we take leave of the Chirurgia *Rationalis*.

In the 14th volume of the Memoirs of the French Royal Academy of Surgery, are papers containing accounts of two cases, which have some points in common with the disease of which we treat; but the identity of at least one of which it is hard to establish. The first piece is entitled, "*Sur la gangrene scorbutique des gencives dans les enfans. Par feu M. Berthe.*"* The author is described, in a note, as a young surgeon of great promise, who was carried off by an early death. M. Berthe commences by quoting Fabricius Hildanus; who describes a gangrene of the gums, occuring principally at about 4 years of age, and of which all the patients died. Fabricius takes the occasion to give a caution to young surgeons, to avoid being too sanguine in predicting recovery from gangrenes. Next a case is given us, drawn from M. Saviard, in which death was the result. This author seems, subsequently, to have had somewhat better success, but at the expense of horrible disfigurements; such as great holes through the cheek, and the loss of a large piece of the jaw; which, indeed, are described as having been worse than death. In another case, recorded by M. POUPART, in the "Histoire de l'Academie des Sciences," this affection terminated in death; preceded, however, and in the opinion of the author, caused, by the production of two tumours, one by the side of the tongue, the other inside of the cheek. This is not at all unlike the progress, which will be hereafter mentioned to have taken place in many of the Asylum cases.

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* Page 193.

M. BERTHE then remarks, that the greater number of instances of gangrene of the gums had terminated unfavourably.

His own patient was ill from April to September, 1753; and exhibited swelled and bleeding gums, frequently projecting beyond the teeth,—black and fœtid stools, fœtid urine, and ecchymoses over the surface of the body. He treated it with antiscorbutics, internally and externally, and apparently with success. The patient, however, relapsed in January, 1754; when M. BERTHE proceeded to a very different, and far more severe treatment. The gums were pared away, in many successive operations; and the wounds were washed with aluminous water. A roll of linen was, during the intervals, kept fastened in the patient's mouth, for the purpose of allowing the escape of the fluids of the part; which he apprehended to possess a putrid character, and to aggravate the original disease, whenever they passed into the stomach. At length, his patient recovered, and continued well.

It appears to the writer of these notes to be hardly necessary to state, that M. BERTHE evidently mistook the disease; the latter being in reality scorbutic, and not a single symptom of gangrene being described during its whole history.

The same, however, cannot be said of M. CAPDEVILLE; whose "*Observations sur les effets rapides de la pourriture des gencives*" appear in the same volume with the foregoing, and immediately subsequent to it.* This writer's case took place after a fever, and no tumefaction of the gums nor ecchymoses of the skin are mentioned as occurring in it. M. CAPDEVILLE attended this case in consultation, in 1764; and complains of too feeble means being employed, as the case was trusted to antiscorbutics. This treatment ended in death. M. C. refers to VAN SWEITEN, whose correct account we shall mention; and it is evident that it was the disease of the Children's Asylum: though he manifests a strong propensity to connect it with scorbutus, and the "blanchet," or a species of aphthæ, which destroyed a great number of children in the Foundling Hospital, in 1746. Reference is also made to cases which occurred in "La Pitié," under the care of CHOPART. Of these, a very scanty account is given. They terminated in death; after a treatment by lotions of honey of roses and spirit of vitriol, with emollient and resolvent cataplasms.

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* Page 217.

VAN SWEITEN, in the article devoted to the consideration of gangrene,* has left us a far more exact description of the disease, into which we are inquiring. Practising in a marshy country, he had frequent opportunities of meeting with it; and his account of it, and his mode of treatment, though brief, are every way worthy of the close, practical inquirer into nature, and the sound medical philosopher. His description is not unmixed with strong expressions of horror and commiseration at its ravages. He describes it in a manner so similar to that in which it now prevails, that no doubt can exist of the identity of the diseases. He acknowledges, however, "rubedo, calor, dolor," among its symptoms. Cochlearia, theriaca and similar articles, according to him, are almost always injurious. If no fœtor exist, (and, of course, no actual mortification,) he applies a solution of sal ammoniac or nitre, with some vinegar or lemon juice; sometimes as a lotion, sometimes by keeping a rag imbued with it always in the ulcer. Hard rubbing he reprobates. If the disease have made progress, and fœtor exist, muriatic acid is used: in the less aggravated stages, diluted with honey of roses and water; in the worst cases, pure. This practice he states never to have failed him, unless where the bone was affected.

In an early edition of Dr. UNDERWOOD's Treatise on Diseases of Children, in the library of the Pennsylvania Hospital, no mention is made of this disease; although an article is devoted to "*gangrenous erosion of the cheek.*" The account is wholly borrowed from a work by Mr. DEASE, of Dublin, "on the diseases of lying-in women," &c. also in the library. Mr. DEASE describes this affection as occurring from 2 to 6 or 8 years of age; especially in unhealthy children, including such as have been subject to worms. The whole body often appeared cold upon the approach of the disease. A black spot then occurred, but *without marks of inflammation*, on one of the cheeks or lips. The whole cheek was sometimes destroyed, and the lower jaw fell down upon the breast. Muriatic acid, infusion of roses, the effervescing draught, and, in the decline of the disease, bark, broths, jellies, and wine, besides magnesia or rhubarb, to remove the putrid matters swallowed, were the internal remedies employed. The parts were washed and injected with muriatic acid, diluted with chamomile or sage tea; and afterwards dressed with the acid, mixed with honey of roses, and, over this, a carrot poultice. By this practice, Mr. DEASE lays claim to almost total success.

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* Commentaria.—Edit. Lugd. Bat. 1742. Vol. I. pp. 766, 767.

In the Philadelphia republication of Dr. UNDERWOOD's book, taken from the sixth London edition, there is an article entitled Cancrum Oris. The author appears to have read PEARSON's account; but as his description does not at all agree with the disease of which we are treating, nor with that of Mr. PEARSON, we shall not stop longer to analyse it.

I have no doubt, from views that will be hereafter developed, that many of the above writers have had cases similar to those which we are about to describe; but have mistaken them, from the want of a sufficiently early and close inspection of the ulcers. In the second stage, this disease much resembles an inflamed sore between the lips and gums, extending to the latter; although I hope to prove that this state of things is secondary.

Locality of the Disease.—The Philadelphia Children's Asylum is situated in South Fifth street, between Prime and Federal streets, in the district of Southwark. The soil is what is called alluvial, or rather diluvial; as is well known to be the case with all that district, lying south of Philadelphia, as well as the southern part of the city itself. The house was built, and for many years occupied, as a mansion, by the head of a most respectable and wealthy family. Its situation possesses some of the qualities usually selected in choosing the site of a country seat. The buildings stand on a swell of ground, leaving an open lawn, now interrupted by several unoccupied streets, and extending, on the right hand, to the banks of the Delaware, and, on the left, to the Navy Yard and part of the suburb of Southwark. Towards the north, it is not far from the edge of a thickly built appendage of the city.

The district immediately south of the Asylum is marshy, and has long been noted for the prevalence of intermittent fevers; but the slightly elevated site of the building had been generally healthy, and continued so, till the universal and distressing epidemic, which infested all the outskirts of Philadelphia, in 1822 and 1823. Even at this period, the persons resident at the Asylum, were far from suffering so severely as the adjacent neighbourhood; and, since those years, it has again become, in general, tolerably healthy. In 1819, 1820, 1821, and 1822, a lot, situated at a short distance, on which were deposited the contents of a number of privies, proved a source of great inconvenience, and some disease, at the Asylum. This focus of effluvia, together with the general and copious use of similar materials in manuring the adjacent fields, occasioned an intolerable stench, and generated diarrhœas, in the early part of the spring. When the grass and weeds, however, were grown sufficiently to protect the surface of the soil from the sun and wind, this effect entirely ceased; and I know not that any other inconvenience was experienced from the same source, unless we attribute to this, as may fairly be done, the destruction of the purity of the well. This formerly afforded very good water; and, since that period, it has much improved. When the corporations of Southwark and Moyamensing shall introduce, as it is to be hoped they will, the Fairmount water into their streets, one remaining cause of inconvenience and ill health, will be removed from the Children's Asylum.

Prevalent Diseases.—Ophthalmias and furuncular eruptions, the latter principally on the face, are epidemic every year; generally in the spring and early summer months. When prevalent in the city, the measles, small pox, and varioloid disease have reached the Asylum; the scarlatina has, at no period, I believe, been peculiarly troublesome there. Intermittents, which were anticipated by many, from the nature of the situation, have seldom, if ever, prevailed in the house, to any very considerable extent. One of the worst visitations which it has experienced, in this respect, was in the autumn of 1823. In many cases, it was in patients who had been labouring under disease of this description, that the ulcer we are about to describe exhibited itself; but it was by no means confined to those who were known to have so suffered. Many, perhaps, most of the children affected, were free from any apparent ailment; although it is by no means impossible that the little, uncomplaining subjects were, at the time, labouring under what has been called "febricula" or "inward fever."

Regimen.—To the impurity of the water we have already adverted. The diet of the children furnishes them with meat every day, with the exception, during a part of the existence of the institution, of two days in every week. Molasses was freely used; indian mush was greatly in demand; and the breakfast and supper were of bread and milk. During the summer months, this diet was abundantly nourishing; but in winter, it was thought that an additional quantity of animal food was desirable; and, accordingly, it was, during the two last winters, given every day.

Description of the Disease.—The ulcer of which we speak, may begin in many parts of the mouth. In by far the greater number of cases, however, it commences immediately at the edges of the gums, in contact with the necks of the teeth, and, most generally, of the two lower incisors. A separation is found here; which exhibits a slight loss of substance at the extreme edge of the gums, and, as far as I have observed, a whitishness of the diseased surface. In some instances, though not very frequently, this is preceded by a slight swelling and redness. In this state, the disease may continue for a long time; and I have reason to believe, that patients have remained thus affected, during the whole period of three months, for which I attended the Asylum. At one time, when the disease was at its height, threatening several patients with destruction, I found upwards of 70 children, out of a population amounting to about 240, more or less affected with these ulcerations. No remarkable change is at this stage observable in the functions of the little sufferer; except a general air of languor and weakness. The appetite and the muscular activity continue, but are somewhat reduced; not sufficiently, however, to disable the child from attending school, taking the air, or continuing his ordinary practices. In this state, no symptoms of irritation have been at all discovered. The skin is cool during the day, no pain is complained of; and no account has ever been given me of any nocturnal paroxysm of fever. It would appear to be purely a state of asthenia. We are, however, by no means certain, that there was no concealed irritation in the system. We were, of necessity, obliged to depend, in a great measure, upon the reports of nurses, and other females: and these were liable to overlook, or mistake for mere weakness, the signs of an obscure disease. In this manner, commencing cases were frequently not discovered, and nothing was done, till the affection had made further progress; and this continued until the ascertained existence of the epidemic in the house, combined with the recollection of its former ravages, had excited an alarm, which led to the inspection of the mouths of all the children in the institution.

The disease, in this form, must be within the curative powers of nature; as, if this were not the case, we should hear of more numerous unfavourable terminations. It has seldom, however, if at all, been within my power to witness this tendency; and, when not controlled by a particular treatment, the cases have almost always either remained stationary, or increased in severity. Its first progress is, most generally, by extending to the edges of the gums round other teeth; frequently affecting a large portion of the dental arches. A very early progress is, however, mostly effected, down the length of the tooth, in the direction of the socket; and, in this way, the disease commits great and unsuspected ravages. When it reaches the edges of the bony socket, the tooth begins to be loose, and when drawn, exhibits portions of the fang, including parts which had been contained within the alveolus, entirely denuded of their periosteum. Indeed, from observation, I should say, that the latter membrane was the part, which was the most peculiarly liable to injury and death from this disease; and it is by no means clear, to my apprehension, that this is not frequently the commencement of the complaint. The injury generally proceeds with augmenting rapidity; especially when it has affected the deeper parts: and it is while in the act of rapidly spreading, that it occasions gangrene.

In the production of gangrenous sloughs, it much resembles the descriptions usually given of sloughing ulcers. A portion of the parts immediately subjacent to the ulcer loses its life; this rapidly separates; and, before or after a complete removal, a fresh slough is formed in the same manner. The sloughs are generally black, with ash-coloured edges. I have not been able to discern a change of colour, the production of vesicles, or any material tumefaction, as antecedent to the gangrene. There is, generally, by this time, an increased heat in the parts; with the sensation termed "calor mordens." The discharge now, for the first time, becomes acrimonious; giving pain when it comes in contact with cuts in the finger; and excoriations are produced on all parts in contact with the sloughing ulcerations; as the lips, the cheeks, the tongue, and the adjoining surface of the part where the ulcer is situated.

As soon as the external gangrene has reached the level of the edge of the bony socket, and frequently much sooner, the adjacent portion of the latter is found deprived of its life; forming a necrosis. The death of the periosteum in the socket, at least that of the fang of the tooth, precedes, by some interval of time, that of any portion of the bone itself.

When gangrene is formed, a fever of irritation is generally developed. In regard to the time at which this takes place, there is a great diversity in different constitutions. It has appeared to me to depend, principally, upon the inflammation of the mouth, which is secondary to the original disease, and, in most cases, to arise from the acrimony of the discharge. It is aggravated by loss of rest, want of nourishment, and, probably, by putrid matter finding its way into the stomach. To the latter cause I also refer a diarrhœa, which almost uniformly comes on, towards the close.

There are accounts of a similar disease having begun on the inside of the cheeks. I have, however, never seen a well-marked instance of this; the cases which were supposed to be such having, in every instance, been also found to exhibit ulcerations at the edges of the gums. That the disease spreads from the gums to the cheek, is a fact which I have often seen exemplified. It is, indeed, the most usual termination of bad cases. After producing gangrene and necrosis in the gums and alveoli, and after the discharge becomes, as above stated, acrimonious, a gangrenous spot is not unfrequently found about the opening of the Stenonian duct, on the inside of the upper or lower lip, opposite the incisors, in some other part of the inside of the lip or cheek, or in more than one of these situations at the same time. Whether this be owing to excoriation from the discharge, or to some other cause, I cannot say; it has, however, in every instance which I have seen sufficiently early to witness its rise, been subsequent to the symptoms previously described.

When the gangrene reaches the cheek or lip, however, very active inflammatory symptoms are uniformly developed. In the cellular substance of these parts, they assume the well known characters which have been attributed to the *phlegmonous* species. We have a great thickening, forming, in the cheek, a large, rounded, prominent tumour, with great heat and pain. Sometimes redness is perceived externally; but, more frequently, the great distension of the skin of the cheek seems to empty the cutaneous vessels; giving to the part, a smooth, polished, dense, white appearance, very much resembling the effect of a violent salivation. I have no doubt that this is the tumour described by POUPART, and alluded to in an earlier part of this paper. Great thickness and hardness have always occurred, in the other situations where this gangrene has approached the external cellular masses of the face; in the lip, however, they are less remarkable, perhaps from the smaller amount of cellular matter. After reaching this stage, a black spot is frequently seen on the outer surface of the swelling. This spreads rapidly; and has always been, in my own experience, the immediate harbinger of death. It is proper to state, however, that I have heard it said, that cases had recovered in this city, in which the gangrene had produced a hole through the cheek. Under what physician's care this occurred, I have never learned.

In two cases it commenced in the fauces; and was marked by the same unsuspected progress. In one of these, the little patient was remarked to be languid, but had no positive external marks of disease. The mouth was examined, and found healthy; but no suspicion of the real situation of the disease was entertained, till after 3 or 4 days more, when he complained of a slight sore throat. A large gangrene of the tonsils, half-arches and pharynx, was now found; and the event need hardly be told.

The closing stage of this affection is marked by large gangrenous patches in the gums; deep fissures between these and the teeth; the latter loose, or falling out; large pieces of the alveolar processes, often containing the roots of several teeth, in a state of entire necrosis; the whole lining membrane of the mouth suffering a violent excoriation; the whole adjacent external cellular substance, hard and swelled; large gangrenous spots in the inside of the cheek or lips, occasionally extending quite through to the outer surface; a total incapability to sleep, or to take the least food; fever; a swelled abdomen, and diarrhœa.

Dissection.—The inspection of the body after death had never thrown much light upon this obscure affection. Since I began to prepare materials for this paper, I have been able to dissect but one subject. The appearances were as follow:

Exterior, emaciated.

Alimentary canal, externally and internally, altogether in a natural state, except what appeared to me to be owing to the subsidence of blood to depending portions of the intestines. The mucous membrane was carefully examined throughout its whole length; but not being at that time aware of the importance, attached, by some pathologists, to small rednesses in this organ, it is highly probable that some such may have been overlooked.

Liver and Spleen, enlarged, but of a natural appearance.

Heart, thoracic œsophagus, and one kidney, (the other not examined,) natural.

Lungs, containing much mucus in the bronchial cavities. The fore part of their substance contained much hepatization.

Pathology.—The nature and production of this disease are certainly very obscure. We may, however, as in other branches of knowledge, attempt to develop and record what knowledge we possess respecting it; carefully separating truth and reason from conjecture. We have already said, that its access was very frequently preceded by no marks of visible disease, or at least none that attracted attention. The little subjects were, apparently, in merely a drooping or enfeebled state. In other instances, the ulceration followed a common remittent or intermittent fever; insomuch that, at one time, whenever a child was brought to the nursery for fever, it was expected, as a matter of course, that his mouth would become sore. In the other cases, as we have already had occasion to say, it is quite possible that a concealed "inward fever" may have existed; and this is rendered the more probable, by the circumstance of their losing their appetites. In the instance where the body was opened, we have seen that the original disease was hepatization of the lungs; and yet it is quite probable, that this affection had caused, as it often does, that species of disease, which a rapidly spreading pathology refers to a slow inflammation of the stomach and intestines. With regard to marks of this last not having been detected by me, it is evident that I am in the same situation with a very numerous body of other observers.

The local appearances, at the commencement, did not appear to be of an *inflammatory* nature, at least generally. If the gums were really the first part affected, it was not so; as these parts when inflamed, as they frequently are in affections of the teeth, exhibit decided soreness, pain, swelling, and an increase of redness. The ulcerated part was, in about nine cases out of ten, paler than natural; and then neither soreness nor increased heat was perceptible, except in a few cases, in which the mouth was generally hotter than natural, though it was not, in a striking manner, referrible to the gums. In a few cases, distinct redness, and a slight swelling, were perceptible round the ulcer. These patients generally did better than the others.

If, on the other hand, we suppose the original derangement to have taken place in the periosteum, we shall be enabled, more easily, to explain some of the phenomena. We then reason thus: The whole of the body had shrunk considerably, from disease, and, the circulation being deprived of a part of its usual vigour, the periosteum, a part possessed of little vitality, was unable to bear the additional extension, which it underwent, across the unyielding bone of the tooth. The blood ceased to circulate in it, and it died. Ulceration of the adjacent parts followed, as a matter of course; and these parts, especially the periosteum, being possessed of but little sensibility, the sympathies of the other parts of the system were but little interested, until an extensive portion of the mucous membrane of the mouth, or a mass of cellular substance, became affected. We certainly see that, in every case but two, the disease commenced in contact with the teeth. This doctrine will also explain the rapid and deep penetration of the ulcer along the roots of the teeth; and the destruction of the bone. We may recur to the statement, that a portion of the fang of every loose tooth was always found deprived of its periosteum.

In the two cases excepted, we have seen it apparently begin in the mucous membrane of the fauces; and indeed the manner in which it generally spreads from the gums to the cheek and lips, seems to me, unquestionably, to indicate a greater liability than common to gangrene in more than one part of the mouth.

The soreness and pain of the socket, which forms a part of most tooth-achs, might have been reasonably expected here; but neither was ever complained of, even when the teeth were loosening: and, as no fever existed at this time, the original irritation can hardly be considered as inflammatory; excepting perhaps the cases which exhibited redness, and slight swelling of the gums.

Is this disease scorbutic?—I never observed ecchymoses, nor in more than a single instance any the minutest red specks upon the cutis, which might be thought to resemble petechiæ. The patients never fainted; the gums were never spongy, nor did they bleed more than those of any other child would have bled, under an equal degree of violence. I however requested my friend, Dr. Harris, who has had ample opportunities of making himself acquainted with scorbutus, to see some patients with me. He complied, with his usual kindness, and pronounced their disease not at all to resemble the scurvy.

The teeth.—But few cases occurred during the second dentition; and it is doubtful whether any one took place during the first. It should be remarked, however, that children under 2 years, were not admitted to the institution, unless by deception on the part of the parents. No child ever lost a tooth of the second set; and, indeed, the second dentition seemed often to cure the complaint. The greater number of cases occurred between 2 and 5 years of age, but some as late as 8 or 10. In several instances, the ulcer destroyed a portion of the enamel capsule; and the teeth were then cut, with *very perfect enamel* upon the lower part, while the bone was entirely bare at the ulcerated portion of the capsule. This singular fact proves that no inflammation of the capsule, sufficient to interrupt the function of its remaining portion, took place in consequence of the opening of its cavity.

Prevalence of this disease in our own country.—Many elderly persons remember during different periods of their lives, a tradition and particular instances of a formidable disease of the mouth, by the name of "Black Canker."* Round Philadelphia, it appears to have been rare. Having been informed by a friend, that the disease had prevailed extensively at Salem, New Jersey, under the notice of my friend, Dr. Theophilus R. Beesley, I addressed a letter to that gentleman, to which he furnished me with an obliging and instructive reply, which I have unfortunately mislaid. Numerous cases have occurred, in that vicinity, within the last 30 years; and were, in general, successfully treated by the women. Cases seldom came under the view of physicians, until gangrene had commenced; and of these, many died: so that the old women were generally more in vogue for its cure, than the regular practitioners. Dr. Beesley, Dr. Vanmeter, and my friend Dr. E. Q. Keasbey, had met with much of this complaint; and the result of many of their observations had been combined in a thesis, written, but, according to our unfortunate custom, not published, by the younger Dr. Vanmeter. It was there considered as a sequela of intermittent and slow remittent fevers, and seldom occurred but in marshy districts, and among the poor. It generally prevailed between the ages of 2 and 10 years. Of the remedies employed we shall again speak. Dr. Samuel Tucker has also seen it in marshy situations near Burlington. I have heard of its existence on the Schuylkill. Dr. Parrish has for several years noticed a stage of this complaint, under the name of "a disease resembling the effects of mercury," in his private lectures. Drs. Physick, Hartshorne, Hewson, Meigs, Wood, Rhea Barton, and Remington, and several others who will pardon me for omitting their names, have also met with cases.

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* This name may be either from the ancient English or the low Dutch: if the one, by tradition, if the other, from the use of it by medical men.

Prevention.—Our precautionary measures should be directed to the predisposed or commencing state already described; to the prevention and cure of fevers, to the removal of "febricula," and other internal disorders, and to the general restoration of strength. Finally, its commencing stage should be watched, and promptly met; and success, I believe, will always attend our endeavours.

At the Children's Asylum, all the weakly children were made

Cancrum is an odd grammatical blunder; being, in reality, nothing but the accusative of Cancer, put instead of the nominative. The latter name was, as is well known, frequently applied by the older surgeons, in a vague manner, to any terrific and unmanageable ulcer; and, in particular, it was often applied to gangrene. The error appears to have been first made by Pearson, and copied by Mr. Cooper. Compare Muys and Vander Wiel, with Pearson, at the above references.

to take bitters, of different descriptions; and Dr. SYLVESTER's antiscorbutic drink, composed of cream of tartar and juniper berries, infused in water. As the disease declined in the house, under this administration of bitters, it is highly probable that they had a preventive agency. I much question, however, whether Dr. SYLVESTER's drink was productive of any advantage.

One question of some importance yet remains. *Has mercury any agency in producing this affection?* The salivary glands have never been observed to be affected in it. Dr. PARRISH informs me, that, after a strict examination, he has come to the conclusion that the previous use of mercury does not bring on, or aggravate this complaint, as he has noticed it. I have made the same observation; and, not being peculiarly sparing of the use of calomel in fevers, have had opportunities to verify it. I think I can add, that, in some cases, by shortening and moderating an attack of fever, calomel has been useful in preventing the ulceration. Given during the progress of one, and that a fatal case, it did not appear to aggravate it.

There is no evidence whatever tending to excite the suspicion of *contagion.*

Treatment.—A variety of remedies had been tried within my knowledge; most of them with but little success, and one or two with somewhat better. Feeling much disappointed with the results of my practice, in the small number of cases which fell under my care in the spring months at the Asylum, as well as elsewhere, I wished to exchange with another physician for a period when the disease was more prevalent; for the purpose of studying it, and making comparative trials of different remedies. Dr. Jos. G. NANCREDE was so polite as to indulge me. Having then a large number of patients under my care, I was enabled to make more extensive observations, and with more precision; the results of which course gave me the first satisfaction I had ever felt relative to this disease. Trials were made of every thing that was suggested by friends, and generally upon 4 or 5 selected patients at a time. Thus, choosing them in the ulcerative stage, and having several at a time before our eyes, the result was seen in a very few days, much sooner than if patients had been successively subjected to the remedies; and no material time was lost in appealing to the article which appeared to answer best.

The remedy which beyond all comparison succeeded best, was sulphate of copper. The usefulness of this substance, though known at Salem, New Jersey, was discovered, at the Asylum, by the mistake of a nurse. It had been previously used, in lotions of the strength of gr. ij or iij to the ounce of water; and with little advantage. Observing that the empirical remedies said to have succeeded, were, as I considered them, immoderately strong, I furnished the nurse with a common solution of sulphate of copper, and with a vial containing 72 grains of the sulphate in an ounce of water, for the purpose of being progressively added to the other at different periods. This stronger solution was applied, by mistake, instead of the diluted one; and it was the first remedy which had produced a rapid tendency to a cure. I finally settled down, after various trials, in the employment of the following:

R. Sulph. Cupri, - - - - ʒij
Pulv. Cinchonæ, - - - ℥ss
Aquæ, - - - - - - ℥iv *m.*

S. To be applied twice a day, very carefully, to the full extent of the ulcerations and excoriations.

The cinchona here is not absolutely necessary; but operates by retaining the sulphate longer in contact with the edges of the gums.

Simple ulcerations and small gangrenes, as well as the troublesome excoriation, when not in the last stage, yielded promptly to this remedy; the good effect being generally visible from the first application.

Dr. Fox, my friend and fellow-labourer in the Asylum, had already taught me that it was important early to extract the teeth. I was not, however, sensible of the full extent of this rule, till after examining the fangs of some of them which were drawn. The separation of a portion of the periosteum from the fang, within the socket, which was universally found whenever the tooth was loose, among two or three hundred specimens, proved the existence of the disease in a deep, narrow crevice, into which it was impossible, by any contrivance, to insinuate the lotion. This cavity was laid open by extracting the tooth; and when the remedy was applied, the sanatory effect was surprisingly prompt. From this period, forwards, the universal rule was to extract all teeth, the moment they were discovered to be in the slightest degree loose; and "the blue wash" above described, became the standing remedy.

It is at all times a dangerous boast for a physician to make, to say that, in the treatment of any complaint, he has always succeeded. He is frequently not credited; and he can never know at what moment disbelief may be borne out by his subsequent failures. A faithful adherence to fact, and justice to the medical art, oblige me to say that it was owing to the observation of these means, that I never had an opportunity of making a dissection, after the one mentioned in a preceding page. Upwards of 120 ulcerated gums came under my notice in the course of three months; of which 70 were affected at one time. Of these, by far the greater number would, unquestionably, have escaped gangrene. The experience of past winters, however, and that of the preceding autumn, justifies the belief that there would have been several gangrenous cases, and some deaths; unless interrupted by remedial means. Some 3 or 4 suffered small spots of mortification, and one, by the delay arising from the tardy report of a nurse, suffered necrosis in a portion of an alveolus; but they were speedily arrested, and the production of more such cases, I believe, prevented, by the employment of the above means.

I have been once, since then, called in consultation to a case in which this remedy failed; but this was only two days previous to death, and during the existence of swelled cheek, and of a thick gangrenous eschar, and it was in fact only once imperfectly applied.

The farthest advanced of all the cases which I have seen, since that time, relieved by this remedy, was in the practice of my friend, Dr. R. M. HUSTON. He aided it by the application of a poultice with lead-water to the external surface of the cheek. This was thought to be productive of much relief.

Great attention and care are requisite on the part of the physician, to see that every part of the ulceration and excoriation is made visible, and brought under the influence of the applications employed. Without this entire knowledge of the extent of the evil, the result will be failure. The disgusting sloughs and discharge, and the fear of an imaginary *contagion*, make the nurses very unwilling to introduce their fingers into the reluctant little patient's mouth; and without this scrutiny all is in vain. The physician is compelled to set the example, to try the looseness of the teeth with his own fingers, and to ensure the nurse's entire knowledge of the extent of the disease.

Dr. Beesley writes that the women in his neighbourhood, frequently used considerable *roughness* in applying the lotions. *Certainty* is absolutely necessary.

After the remedy had been thus accidentally discovered in the Asylum, and used for a few days, I received Dr. Beesley's letter mentioned above; and I then learned that the sulphate of copper was the principal dependence of the physicians at Salem. As, however, I had never seen Dr. Vanmeter's thesis, the use of it at the Asylum was new to me.

An excellent remedy, and one on which the sole dependence should be placed, were we not in possession of one which possesses a decided superiority, is one which was communicated to me by Dr. Parrish. It is as follows, including a slight correction made by the apothecary:

R. Sulph. Zinci, - - - - ʒi
Aquæ, - - - - - - - ℥ij Solve.
Dein adde, Mellis Despum. et
Tinct. Myrrhæ, aa - - ℥ij

To be used in the manner described above.

Some bad cases yielded to the following:

R. Sulph. Zinci, - - - - ʒij
Aquæ, - - - - - - - ℥i *m.*

It is useful to record failures and unsuccessful trials; as they serve to deter others from unnecessary risk. We therefore record the following as not having succeeded in our hands:

R. Mellis et
Tinct. Myrrhæ, aa - - ℥i *m.*

The same, with the addition of powdered bark.

R. Aluminis, - - - - - - ℈ij
Tinct. Myrrhæ, et
Mellis, aa - - - - - - ℥ij *m.*
R. Pulv. Cinchonæ, - - - ℥i
Myrrhæ et
Pulv. Carbonis. a - - - ℥ss *m.* et adde
Succ. Limonum, - - - q. s. ad massam
faciendam, quâ illineantur gingivæ.

Caustic potassa; and nitrate of silver.

Pyroligneous acid, both pure and variously diluted with water. This had but a very limited effect, even in destroying the fœtor; and I am by no means sure that it was of any use in arresting the disease.

Muriatic acid, though praised by such high authorities, did not seem productive of any distinct useful effects. Nitric acid, variously diluted, and sulphuric acid, which was tried in one case, diluted with an equal quantity of water, were entirely useless.

Of *constitutional* treatment, the disease seemed to admit very little. In the early stage, the means employed, were the same mentioned above as means of prevention. It was by no means evident that any of these were useful in retarding the progress of the complaint. Towards the decline of the worst cases, aromatic sirup of rhubarb, with magnesia, were employed, to remove the putrid matters swallowed; and to relieve the diarrhœa which generally took place, by the astringent operation of the first mentioned medicine. It is extremely doubtful whether these means were productive of any benefit.

While the above was in press, I have met with the article, "*Gangrene de la bouche des enfans*," in the Dictionnaire de Medicine; written by M. MARJOLIN. The author in the Dictionnaire des Sciences Medicales, has given nothing material but references to some of the writers mentioned above; with one or two which were not within my reach. M. MARJOLIN has evidently identified the disease. He cites FABRICIUS HILDANUS, though we have not found a distinct account of it in that writer's works. He remarks that it is identical with the *necrosis infantilis* of SAUVAGES. He also refers to SAVIARD, VAN SWEITEN, whom he justly mentions with the highest praise, UNDERWOOD, BERTHE, CAPDEVILLE, M. BARON, and the inaugural thesis of M. ISNARD. As we have no means of referring to the two last, we must judge of them by M. MARJOLIN's statements. He observes the dissimilarity of BERTHE's case. From the thesis of M. ISNARD, he gives us an account of the disease which corresponds very nearly, indeed, with that of VAN SWEITEN, and with the appearances observed at the Children's Asylum.

"Almost all the infants affected with this disease in the hospitals of Paris," says M. MARJOLIN, "sink under it." He recommends, after Van Sweiten, the use of muriatic acid, which he mixes with honey in equal proportions. Thick sloughs he cuts away with a bistouri or with scissors. MM. Jadelot, Guersent, and Baron, have employed the actual cautery with success in several instances. M. Marjolin has cured three cases; one by the actual cautery, one by caustic potassa, and a third by *muriate of soda!* which, he believes, will always destroy the fœtor. It would be interesting, undoubtedly, to make repeated trials of this simple remedy; and we shall endeavour to do so in cases which admit of delay.

Article II.—*Case of Purpura in an Infant, attended with Extraordinary Symptoms.* By R. M. Huston, M. D., &c.

On the 28th of August last, A——— V———, after a moderate labour of four hours' continuance, was delivered of a female child. About a month previously, she had laboured under an attack of intermittent fever, which yielded, in a few days, to the ordinary treatment. She was 23 years of age, an English-woman by birth, had generally enjoyed good health, and was as well as usual at the time of her confinement. Her labour was strictly natural, and her delivery accomplished without any extraordinary assistance.

At birth there was nothing remarkable about the child. Its breathing was natural, its skin of the usual colour and appearance; in short, all the common indications of a continuance of life and health were present. A few hours, however, after birth, it became uneasy, cried much, and showed signs of colic. The nurse, supposing these symptoms to arise from flatulence, administered some warm tea; but without any apparent advantage. On the following day, I saw it again, and learned, that it had evacuated a considerable quantity of urine, and some intestinal matter, of the ordinary appearance after birth. The spasms continuing at intervals, a teaspoonful of castor oil was ordered, to evacuate any remaining meconium, that might lie in the bowels, producing irritation; upon the presence of which, it was presumed the spasms depended. It operated well, but without producing the desired relief. On the next day, viz. forty-eight hours after birth, a number of bluish or purple spots were observed on different parts of the child's body, but most numerous on the extremities. They were of various sizes, from that of a mustard seed, up to that of a grain of Indian corn. Some were slightly elevated, but most of them were not in the least so. In the majority, there was a minute central spot, or little point, more red or pink coloured than the blue areola, by which it was surrounded. In many instances, these little points projected, so as to become manifest to the touch. In the course of twenty-four hours, the spots, which had first appeared, began to decline, leaving a greenish mark, very like the remains of a bruise; but much more rapidly than these declined, others of larger size appeared on different parts of the child's body.

On the third day after birth, large blotches appeared, one behind each ear. These rapidly increased, until they covered the whole extent of the parietal bones, and considerably elevated the skin, giving it a puffy or tumid appearance, like that caused by a blow from a large or blunt instrument. The parts soon became hot and tender to the touch; and this tenderness extended over the greater part of the scalp. A blotch, similar to those upon the exterior surface, was likewise observed within the mouth, covering the whole extent of the palate bones. The child experienced great difficulty in swallowing after the third day; and the *nurse* thought the spasms were often excited by attempts of this kind.

But the most singular feature of the case was the appearance, on the night of the second day, of a discharge from the vagina, *resembling* the menstrual flux. It resembled that flux in *colour*, *consistence*, *want of coagulability*, and in being, withal, accompanied by a considerable quantity of *slimy or mucous matter*. Every diaper which was used during that night, and the greater part of the next day, was stained more or less with this discharge. It was also observed, that, during the flow of this fluid, the spasms ceased; and that, whenever the discharge was suppressed, even for a very short time, they uniformly returned. In this manner they alternated at intervals of a few hours, until the occurrence of the death of the child, which happened on the eighth day after birth.

As this case is related more for its singularity than from an expectation that any practical suggestions will be furnished by its perusal, but few remarks will be necessary, either upon its pathology or treatment. Although it will be perceived by the scientific reader, that the disease observed, differed materially from any of the forms of *purpura*, described by systematic writers on diseases of the skin; still I apprehend it may be justly considered as more nearly allied to that genus, than to any other.

The spots were evidently caused by an effusion of blood beneath the cutis, and the presumption is strong, that it issued from the little point discoverable in the centre of each spot. Those points were, in all probability, *arterial.* That they were arterial terminations, I think is evident, from the great extent to which the cellular membrane was injected, especially over the parietal bones. The force exerted must have been very considerable to elevate so large a portion of scalp, and yet no pulsation could be discovered in any one of the points.

But whence came the vaginal discharge? That it issued from the *vagina* was most certain; but whether it was furnished by that canal, or by *the uterus*, was not ascertained. To assert that it was menstrual, would be hazarding more than a prudent regard for truth would justify. But, if not, why the pain and spasms which preceded it, and the alternation of these symptoms with each other? and, especially, why the slimy appearance, mixed with red matter, without a trace of any thing like coagula? Certainly we do not find these appearances in ordinary cases of hæmorrhage. So that there is no other way of accounting for the discharge in this case, except by considering it as having been secreted by the vessels of the parts from which it came.

From the difficulty which the child experienced in swallowing, but little food could be taken; and the same difficulty precluded the administration of medicines. What caused this impediment could not be ascertained, but it was supposed to result from a spasmodic action of the muscles of the part.

The only medicine attempted to be given was a weak infusion of bark, and this was soon abandoned.

The spots, particularly the large ecchymosed surface on the head, exhibited no change in appearance, when *viewed superficially*, a few hours after death. No other examination was permitted.

Article III.—*History of the Natural and Modified Small-Pox, or of the Variolous and Varioloid Diseases, as they prevailed in Philadelphia in the years* 1823 *and* 1824. By John K. Mitchell, M. D., and John Bell, M. D., attending physicians at the then Small-Pox Hospital. With a Plate.

In a question of less moment, some apology might seem due for once more directing public attention to that which has been so oft discussed and described by many eminent physicians and experienced observers. But, if descriptions of any disease be valuable; if to record faithfully an evil be among the first steps for its removal and prevention; and, still more, if additional confidence, derived from enlarged experience, can be imparted to the means hitherto adopted to guaranty the human frame against a mortal and loathsome malady, our efforts at this time may claim the favourable notice of our professional brethren, and of the community at large.

Sedulously abstaining from the parade of erudite research or indulgence in speculations, however ingenious, it is our intention to describe with accuracy all that we saw; and if, in so doing, we shall be found repeating what others have said before us, and proposing inferences previously drawn, the observations and deductions are to be considered as not the less our own, since we only speak from conviction, founded on the evidence presented to our senses. Our opportunities for accurate judgment were most ample, being derived as well from an attendance of nine months on the hospital for the reception of the poor, labouring under the disease, as from one of us prescribing, during a part of the time, for the Philadelphia Dispensary, added to the cases furnished us by private practice, and very many others, the records of which have been kindly placed at our disposal by professional friends.

The ravages committed by the small-pox in Baltimore, and the fact of many who had been previously vaccinated having been attacked by the disease during the years 1821 and 1822 were notorious to us all, but were productive of little alarm in Philadelphia. The non-appearance of the scourge in the greater part of the period, when the former city was suffering under it, justified, to a certain extent, this feeling of security, and seemed to call more on our sympathies for our neighbours than on our fears for ourselves.

In the month of September, 1823, some cases of fever, with pustular eruption, first arrested the attention of the medical faculty, some of whom were, of course, called on to render professional assistance. The residence of some of the persons, thus attacked, in Water street, and their emigration from Europe, naturally induced a suspicion of this disease being no other than the small-pox, imported by, or brought in with them. Very nearly about the same time, however, some scattered cases of a similar eruptive disease, were noticed in the upper or western portion of the city, without our being able to trace any intercourse or connexion between these and the others in the lower or eastern part, viz. Water street.

The first return of death from small-pox, furnished by the Board of Health, was in the week between the 13th and 20th of September. The next was between the 4th and 11th of October. From this time to the end of the year there was a progressive increase of mortality, and the annual return for 1823, presented no fewer than one hundred and sixty deaths by small-pox. The greatest mortality in any one week was thirty-three, from December 20 to 27. During the months of January, February and March, 1824, the disease prevailed extensively, and was fatal to many. In the following months its violence subsided, and in the month of June our attendance on the temporary hospital* was discontinued, in consequence of a resolution of the Managers of the Alms House to close it. Though a few patients were afterwards received into it, yet the malady soon disappearing, justified its final closure. The annual return for 1824 exhibited three hundred and twenty-four deaths by small-pox. The entire mortality from this cause was four hundred and seventy-three, in a period of twelve months, from November 1, 1823, to November 1, 1824. The deaths before the first, and after the second date, were but eleven.† Contagious as this disease unquestionably was, we cannot, at the same time, withold our belief of its having been in a measure subjected to epidemical influences, viz. in a particular character of the seasons and atmospherical changes. It is then within our province, as historians of events, rather than as expounders of causes, to present our readers with a summary account of the weather during the years 1823 and 1824. We do this both from a sense of duty, considering it as pertinent to our present labour, and from a wish to encourage others by our example to preserve and transmit the meteorological registers, in their respective districts, of those years, marked by new or aggravated diseases.

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* This was first at Bush Hill, and subsequently at the Sugar House, near the Alms House.

† The largest proportion of these deaths was in the six months from the 1st of November, 1823, to 1st of May, 1824, being in that period about four hundred.

METEOROLOGICAL REGISTER.*

1823.	Mean Temp.	Variat. Therm.	Variat. Barom.	Snow & Rain Water. Inches.	Winds—Days. N. W. to S. W.	N. E. to S. E.
January,	31	44	0.94	3.38	22	8
February,	25	42	1.17	1.93	22	6
March,	37	52	1.65	6.87	21	9
April,	55	47	1.08	1.77	16	14
May,	61	52	0.88	1.60	19	8
June,	68	46	0.65	0.87	20	10
July,	72	30	0.58	6.12	23	6
August,	72	35	0.60	4.68	21	8
September,	63	51	0.61	3.46	15	12
October,	53	42	0.60	2.02	21	9
November,	38	38	0.81	2.47	21	9
December,	34	31	1.07	7.37	21	10
For the year,	50¾	88	1.70	42.54	242	109
1824.						
January,	36	48	1.25	3.67	24	7
February,	31	59	1.55	3.94	21	7
March,	40	39	0.71	2.63	16	15
April,	50	45	1.08	4.54	22	8
May,	60	44	0.88	1.59	24	7
June,	73	46	0.69	6.09	25	5
July,	74	30	0.38	8.80	19	8
August,	70	36	0.45	6.39	20	11
September,	64	41	0.65	6.60	17	7
October,	54	43	0.65	1.53	23	5
November,	42	38	0.89	2.49	24	6
December,	37	43	0.95	2.11	24	7
For the year.	52½	85	1.55	50.38	259	93

The temperature of the wells and springs, in and near Philadelphia, is 52° Fahrenheit.

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* Kept by Reuben Haines at Germantown, seven miles from the city. The thermometrical mean is that from daily observations made by this gentleman at sunrise and at 2 P. M.

1823.

Maximum of Therm.	91,	June 19.	Maximum of Barom.	30.45,	Nov. 29.
Minimum „	3,	Feb. 7.	Minimum „	28.75,	March 30.
Variation, -	88	- - -	- - -	1.70	

1824.

Maximum of Therm.	90,	June 8.	Maximum of Barom.	30.45,	Feb. 6.
Minimum „	5,	Feb. 2.	Minimum „	28.90,	Feb. 26.
Variation, -	85	- - -	- - -	1.55	

The amount of water which fell in rain and snow during the four years, from 1822 to 1825, inclusive, was,

	1822.	1823.	1824.	1825.
Inches,	35.20	42.54	50.38	33.26

We next subjoin a summary of deaths by fever, erysipelas and measles, in the above period; being more desirous of narrating all the circumstances associated with the appearance and continuance of the small-pox, than of insisting on them as supporting causes or necessary connexions. It will appear from the accompanying statement, that the diseases febrile and eruptive were in number, violence and mortality unusually great, in the above mentioned years, as we discover by comparison with the returns for 1822 and 1825.

		Deaths by		
	Fevers.	Erysipelas.	Measles.	Small-pox.
1822	510	4	0	0
1823	758	24	156	160
1824	654	28	102	324
1825	375	12	38	6

In New York and Baltimore, the coincidence between increase of fevers, measles and erysipelas, and the mortality from small-pox, is not so well marked.

In New York—Deaths by

	Fevers.	Erysipelas.	Measles.	Small-pox.
1822	393*	6	1	0

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* Of these 165 were by yellow fever.

	Fevers.	Erysipelas.	Measles.	Small-pox.
1823	192*	13	117	18
1824	191†	14	100	394
1825	445	20	53	40

In Baltimore—Deaths by

	Fevers.	Erysipelas.	Measles.	Small-pox.
1821	400	0	2	21
1822	430	1	4	122
1823	304	2	175	2
1824	183	3	14	2
1825	138	0	9	3

We now proceed to give a brief sketch of the disease called the natural small-pox, (occurring in persons unprotected by previous vaccination or inoculation,) and the deaths from which are given in the above statements. We must, in advance, insist on the great diversity in the appearance of the eruption in different individuals; so great, that an attempt to make an accurate picture of one case pass for a faithful representation of the many, must be deceptive and injurious.

In the premonitory symptoms, constituting the characters of the fever precursory to the eruption, there was considerable uniformity: the complaint of nearly all those attacked being at first chills and rigors; pains in the loins, head and limbs, with thirst and want of appetite; with which were soon associated gastric uneasiness, and in many, soreness of throat, rendering deglutition painful, hoarseness and weeping eyes. The duration of these symptoms, aggravated by febrile exacerbations, varied from one to three days, more usually the latter, after which the eruption begins to appear. It is first seen round the forehead and temples, near the hairy scalp; then on the cheeks and breast and back; on the arms near the shoulders; the abdomen and thighs; and subsequently on the fore-arms and hands, and finally on the legs and feet. The appearance of the eruption is that of red or scarlet papulæ, presenting to the touch a sensible resistance, but not much raised, and without roughness or hardness. These papulæ, becoming more and more defined and elevated, are after a day or two converted into vesicles, with small elevated centres or bodies of a yellowish-white, and more diffused red and somewhat hard bases or margins. The redness extending as the eruption becomes copious, converts the skin, especially of the face, neck, and hands, into a red ground, from which project, in relief, the whitish vesicles. Similar appearances, but of a less marked nature, owing to the eruption being more scattered, are found on the trunk. The vesicles, containing at first a thin, semi-transparent fluid, become gradually larger, fuller and yellower, and filled with a thick, tenacious matter. This change is completed, and the pustules are entirely formed, after a lapse of time from the first eruptive effort, which varies from the fifth to the ninth day, and is occasionally longer. The mean for the beginning of maturation, or the finishing of the secretion of matter in the pustule, may be received as five days for the face, and eight or nine days for the body generally. The stages of the eruption, as regards its appearance, may be very properly called papular, vesicular, and pustular. This last having attained its height, completes what is termed the period of maturation, during which the pustules retain their fulness and spheroid figure; and exhibit the greatest proportion of whitish-yellow shining surface of their body, and diminished extent of redness at their base. A yellow dry point on the summit of the pustule, which loses thereby somewhat of its former spheroidal shape, by becoming flatter, or slightly indented, indicates beginning desiccation, at which time the body exhales that peculiar odour, so unpleasant, and so readily recognizable, after it has once been perceived. There is no uniformity in the size of the pustules on the body generally, nor any equality among them on a particular part: more usually one larger and fuller is surrounded by others less so. Nor is it to be supposed that the changes above mentioned are gone through in regular succession on all parts of the surface, uniformly. It was no uncommon thing to see the eruption papular on the legs, vesicular on the trunk and arms, and pustular on the face, at the same epoch. One part even, as the arm for instance, has exhibited to us the three forms at the same time.

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* The deaths from inflammation of the different viscera, were as reported in this year, 290, and from infantile flux and cholera morbus, 177.

† Same proportion of inflammations as last year, viz. 339.

Maturation complete and desiccation going on, the pustules break, and have their thin coverings converted into a yellow hard coat or crust, to which adheres the pus that was not removed by absorption, and the residue, by evaporation of its watery part, is now converted into a scab of varying thickness, firm and prominent in its centre, and made up outwardly of concentric circles. The margins of the pustules, before of a distinct red, now assume a bluish-red or purplish colour, and the skin begins to desquamate.

The constitutional sympathies, or the symptoms in the milder and regular variety of the disease, are not of any great violence or intensity. The premonitory pains, diminishing or disappearing, after the coming out of the eruption, leave in their place a regular fever. The action of the heart and capillaries is hurried during the papular and vesicular stages; but becomes more equable while maturation is going on. During the former period, the loaded and not unfrequently furred tongue evidences disordered stomach, the cravings of which are for cold drinks. The somewhat laborious respiration may, in some cases, depend on the swelling and soreness of the fauces and pharynx; in others, on the eruption extending along the lining membrane of the larynx; whilst in others, it may be caused by bronchial engorgement.

The febrile symptoms, which abate during the process of maturation, are apt to return during desiccation; and when the skin begins to desquamate, they then constitute what is called secondary fever. The skin which had suffered so much, occasionally exhibits at this time an erysipelatous blush, accompanied by an inflammation of the subjacent cellular tissue, and the formation of troublesome boils, or infiltration of serum, especially where there is much laxity of structure, as in the eyelids, cheeks, lips, &c. The cutaneous system, during and immediately after the removal of its cuticle. and much of its rete mucosum, is of course very sensible, as well to the impression of clothes as to atmospherical extremes, and particularly cold. This is with many a critical time. It not unfrequently happened that persons, who had passed through the different stages of the disease, and were advancing rapidly to convalescence, were suddenly seized with an affection of the chest, pleurisy, bronchitis or pneumonia, and speedily carried off by the violence of the inflammation. The skin, exquisitely sensible in its denuded state to atmospherical vicissitudes, transmits with great promptness the morbid impression to the lungs, already prone to take on disease, in consequence of the active part they are compelled to play during the eruptive fever.

The anomalous varieties, if we can admit any standard form of the disease, were numerous. Those which most fixed our attention were the *confluent*, the *roseate*, the *tuberculous*, and the *erysipelatous*.

The *confluent* was ushered in by symptoms of greater febrile disorder than the regular distinct variety: the throat was sorer; eyes more suffused and watery, and more intolerant of light; gastric and pulmonic uneasiness, and oppression more aggravated. In place of the papulæ being separate, or merely in clusters, they are so crowded, that on the progress of the eruption the vesicles first and then the pustules are contiguous at their bases, and often run into each other, forming at times, a large irregular bag filled with pus, and technically called blebs, or else exhibiting over a considerable space of skin the appearance of imperfect vesication. The vesicles and pustules are, in such cases, flattened, and with indented centres, which latter display at times a dark point or spot, while the edges are of a livid red. This is the appearance of the limbs and trunk. The cheeks and forehead during the process of maturation present a continuous puffy elevation of a pearly white colour. The eyes are nearly closed by the swelling of the lids, and the thick copious secretion from the borders and the conjunctiva; the lips are tumid and the angles of the mouth ulcerated. In fact the human face divine, deprived of all lineaments and expression, is now a foul, misshapen mass. Associated with this state are swelled throat, rendering deglutition very painful—salivation, cough—occasional vomiting, delirium, sometimes phrenitical, sometimes evidencing itself in low mutterings and jactation.

The *roseate* variety of small-pox might, without creating much confusion, be ranked with the confluent, which it closely resembles in its second stage. The first is characterized by the rose or pink colour of the face, which is covered with a copious eruption of papulæ, some with dry points, while from others, the bases of which are small and hard, arise minute vesicles of a pearly colour, which soon dry away. The inflammation, however, still continues, but spreads under the cuticle, which is raised in large patches of a white colour, but not vesicular, or distinctly pustular, or containing fluid: they approximate and produce the continuous puffy elevation already described. On the trunk and extremities, the eruption is either of confluent patches, or of pustules dry and flat, with indented centres, the intermediate skin being of a deep red or crimson colour.

The constitutional disorder runs high in these cases,—delirium and great gastric distress being very common symptoms. The tongue, especially at its border, is frequently the seat of eruption, which may be compared to the vesicular stage on the skin, with the summits cut off. The lining membrane of the mouth and fauces and pharynx, are, we presume, similarly affected, judging from the soreness of these parts, and the thick muco-purulent matter sometimes mixed with blood, which is spit out or brought up by screatus. The subjects most liable to the roseate eruption, were the intemperate and debauched of the sanguine temperament.

The *tuberculous* variety of small-pox was most frequent among the negroes. The eruption at first consisted of broad papulæ, which were converted into hard, rough, and knotted prominences, tuberculous at base and flattened in the centre. This was not unaptly called by some the seal skin eruption. Sore throat, causing the greatest difficulty in deglutition, and delirium were the almost invariable concomitants of this variety. Occasionally the patient was in a state of stupor and disinclination to motion—at other times wakeful and restless, and requiring coercive means to confine him to his bed. In many instances, the muscular strength was retained to within a few hours of death. The fatal termination in these three varieties, confluent, roseate, and tuberculous, was in the second period of the disease, that is, in the one corresponding with the completion of maturation, and the absorption and drying away of the pus in the simple distinct form of small pox. After some experience, we were enabled, from the appearance of the eruption at the outset, to presage the event, which in the above described kinds, was almost universally fatal.

The *erysipelatous* variety was more an adventitious conversion of the primary form of the disease, by hospital air and delicacy of the cutaneous tissue induced by prior irregularities of life, than a distinct kind to be met with in general practice. It was most commonly presented to us in persons who had a very copious eruption, interesting to a great degree the whole cutaneous surface, and in whom the process of maturation was complete, and the cuticle began to lose its adhesion to the subjacent tissue. In some cases, even after desquamation was almost completed, and the skin nearly dry and smooth, erysipelatous inflammation would supervene, and seem to be repeated on the pulmonary and gastric surfaces, producing great trouble in respiration and derangement in the digestive functions, accelerated pulse, and other symptoms of fever.

We could readily pourtray other nicer shades of the natural small-pox, but the originals might not perhaps be so readily recognized by succeeding observers, or their nature well understood by our readers.* Our object being to convey practical knowledge, we pass on to a notice of the subjects, most liable to suffer from exposure to the variolous poison.

The African race would seem to be peculiarly obnoxious to the small-pox: the actual number of people of colour brought to the hospital being greater than the whites, and the proportionate mortality much more considerable; being as four deaths to six cases of disease in the former, and two deaths to four cases of disease in the latter. As regards sex, the proportion of deaths among the males was three-fifths, among the females two-fifths, of the entire number under treatment in the hospital. In both, the violence of the disease, and the number of anomalous symptoms and complications, depended greatly on their prior dissolute life. Drunkards among the men, and prostitutes among the women, rarely escaped death. The former had the roseate eruption, and the latter the confluent, on which dark spots as if gangrenous were a frequent appearance. Menorrhagia, at any time in the course of the disease, was a bad augury.

The better to elucidate the nature of this dire malady, we shall now give from our records some cases of fatal termination, and add an account of the appearances on *post mortem* examination of these same subjects

Cases.—I. Wilhelmina Smith, white, aged nineteen years, of irregular habits, has a well defined circular scar, with smaller pits in it, on the left arm; but has no recollection of having been vaccinated, nor does she remember ever having heard her parents, who are now dead, speak of it.

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* Should it be hereafter necessary, we can illustrate other varieties of the disease by drawings which were taken at the same time with those, of which coloured engravings are now furnished.

She was taken sick on Thursday night, the 11th of March, 1824, and in the morning had vomiting and pains in the back. On the 13th in the afternoon, the eruption first appeared.

15th. Admitted and visited. Eruption on face slightly prominent, is red, tuberculous and rough—small and scattered on the arms, like flea bites. Legs nearly clear: they have many cicatrices, especially on the shin and outer part. There is at present an ulcer above the inner ancle. Tongue yellow, and furred in centre, white at borders. Pulse small and threaded.

16th. Eruption rising vesicular from face and limbs; no fever; tongue greenish and loaded; coughs much.

17th. Eruption fine, dry, flat, and partly indented in centre on the face, which burns much; skin red and inflamed; on limbs same appearance, but eruption less copious; pulse small, threaded, and frequent; tongue furred and yellow in centre; complains of pain in deglutition; cough.

18th. Eruption on face dry, flat, white and small in size, and copious; rather more elevated on limbs and neck; tongue dry and furred; pulse frequent and threaded; throat sore.

19th. Eruption same as yesterday; pulse scarcely to be felt; skin cool; coughs with an appearance of choking.

Dead at midnight. She retained her muscular strength and ability to sit up to the last.

Examination in the afternoon of March 21.—On removing the sternum and anterior portion of the ribs, the anterior mediastinum was found filled with a frothy adipo-mucous collection of a yellowish colour. The lungs on both sides adherent to the thorax, and the left lobes to each other. A sanguineo-serous effusion on both sides, probably a quart on the right, the lungs of which were changed in texture, and shrunk. The pericardium contained a large quantity of the same kind of fluid, which was found in the cavity of the thorax. The heart was highly injected. On removing the lungs and the trachea, and larynx, the lining membrane of the two last showed a brownish-red, coated with mucus, and deeply injected. Same appearances in a more marked degree in the bifurcations of the trachea.

The œsophagus next examined, was found of a natural appearance, except near the stomach, where it was injected and assumed a red hue, contrasting with the whiteness of its upper part. The mucous membrane of the stomach near the cardiac orifice was in some parts of a roseate hue, in others a brownish-red; while in others it was ash-coloured, and dotted with red and yellow points. Towards the pyloric orifice, less disease. The stomach contained nothing but dark green bile and mucus. The duodenum was also highly injected. Lower down, the small intestines were in places lined with a dark red and brown, and the mesentery highly injected in the portions corresponding to these spots. Intestines much inflated, and omentum dark and injected. The uterus was not examined. The ovaria were large, white and soft; in the left was a small sac of dark blood, which readily burst on pressure.

The liver was very large, of a soft texture and white colour; gall-bladder full of dark green bile, which had in part transuded through its coats.

On looking at the trachea after it was washed, it exhibited in places whitish elevated spots, having all the appearance of an eruption.

II. Ann Collins, white, aged 18 years, unprotected, became sick on Tuesday evening, March 23, 1824, and was taken to the Alms House, as one having the measles, on Wednesday. On Thursday evening, some eruption was visible; on Saturday evening, March 27, admitted.

28th. Visited. Face covered with a red, flat, dry eruption, particularly on the cheeks; small and vesicular on the chin and around the mouth. On the arms, it has the appearance of measles; on the hands, it is of a deep scarlet, with central vesicular elevations; on the legs is slight; tongue loaded and yellow, except at the borders, which are clean; pulse natural; complains much of pain in the back and sickness of stomach.

30th. Eruption covering the face, vesicular on a deep red ground with some tumefaction; rising vesicular on the limbs with scarlet bases. Tongue smooth and shining anteriorly, and with vesicles on it. Throat sore. Salivation. Pulse small and feeble. Has had menorrhagia since her admission into the hospital.

31st. The menorrhagia continues. Had last night epistaxis. Pulse small and slow. Tongue furred and red. Eruption confluent with indented and dark centres. Surface white and dry. Skin between, red and inflamed. Very slight eruption on legs, and none on feet.

April 1. Menorrhagia continues. Pulse small and labouring. Respiration laborious and hurried. Face swelled. Surface smooth, with white spots to represent the pustules. On breast and arms the eruption is in confluent patches which are nearly continuous—some pustules flat and indented, others smooth, with appearance of radii, and some more elevated forming blebs. Skin of the feet cold, and blue in spots; no elevated eruption on lower extremities. Tongue furred and yellowish. Throat sore. Eruption very copious on body, generally with blebs.

Vesperè; pulse hardly perceptible. Anxiety and distress great. Dead at 10, P. M.

Examination April 2nd, in the afternoon.—On opening the thorax, the lungs and heart were found of the natural appearance and size. The larynx and trachea being divided, exhibited all the way down to the lungs an injected surface with whitish irregular spots, having nearly the same appearance as the flat smooth eruption on the face: in parts it was more evidently pointed, and showed, by the aid of the microscope, a pustular appearance. In the lungs, the inner surface was still darker. The root of the tongue was covered with large and rather hard papillæ, with open summits. The œsophagus was smooth and white. The stomach near the cardia injected, and of a brownish-red in spots: the remaining portion white, presenting no diseased appearance. The spleen was very large and covered with copious miliary points. The omentum, to appearance gangrened, was dark, and altered in texture. The peritoneum, especially in the pelvis, was injected and inflamed, being of a semi-opaque dark colour. The uterus, small and firm, contained some bloody mucus in its cavity.

III. Joseph Foster, white, aged 22 years, unprotected, became sick on Monday evening 8th of March. The eruption began to show itself on Wednesday morning, 10th.

12th. Admitted and visited. Face covered with a red, dry, tubercular eruption, with some few yellow pustules. Same on arms, but no pustular appearance; partly tuberculous, partly vesicular. More sparse and scattered on breast and legs: none on feet. Slight cough. Tongue white, clammy, and loaded in middle—red at borders. Pulse rather frequent.

14th. Face covered with a pustulo-vesicular eruption, with whitish summits, red and inflamed bases. Skin between, of same colour. Eruption dry and hard; very red, copious on limbs; less so on trunk. Tongue moist and less loaded. Pulse regular.

15th. No fever. Face of a deep red colour; eruption rising from it rather flat, irregular in figure and white at summits. Eyes inflamed. On limbs the eruption is red at base, vesicular in body and summit: on trunk in clusters. Tongue yellowish and rather furred. No complaint made; rests easy; sleeps well.

16th. No fever: tongue moist and a little loaded. Pustules nearly white. Some yellow, and beginning to dry on summits. Skin between still of a deep red. Eruption filling on limbs and trunk.

17th. Pulse strong and frequent; skin hot; tongue moist and loaded. Pustules scabbing on face. Not yet entirely filled on limbs, where they are in clusters with inflamed bases.

18th. Pustules full and matured on limbs. Running into each other in places. Tongue dry, brown, and furred in centre, yellow and loaded at sides. Pulse quick and frequent. Lies easy.

19th. Blebs formed on arms; pustules running into each other, beginning to shrink; matter oozing out. Tongue covered with a dark crust. Pulse quick and frequent. Erysipelas of eyelids and ophthalmia. Throat sore.

20th. Blebs larger and more numerous on hands and arms; purulent matter oozing out from some of the pustules. Face nearly scabbed over. Some small white pustules formed on the eyelids. Pulse frequent and vibrating. Tongue as yesterday. Gums tender.

21st. Pulse weaker. Desquamation going on; pustules shrunk and drying on limbs. Tongue as yesterday.

22nd. Matter much absorbed on limbs, leaving a shrunk cuticle. Face covered with a brown and yellow scab and scurf. Tongue black and furred; clear at apex.

23d. Some erysipelatous inflammation of the skin; pustules all nearly disappeared from arms, trunk and thighs; some few, white and soft remain scattered over breast. Pulse frequent. Tongue black and incrusted.

24th. Was brought into town from Bush Hill.

30th. Desquamation nearly complete. Low frequent pulse. Respiration slow and laboured. Tongue incrusted.

April 2nd. Dead at 10, A. M.

Calomel had been freely given to this man in the earlier stage of his disease: and during the last week, spts. terebinth. and nutritive farinaceous food.

Examination.—The pericardium, of a greenish colour and its capillaries finely injected, was full of yellow serum. The lining membrane of the larynx and trachea was of a greenish-yellow colour throughout, and in the spaces between the cartilages ulcerated and disorganized in several spots. Beneath the membrane was a venous injection. About the bifurcation it was injected; and in the ramifications of the trachea were seen several inflamed, and in places abraded and disorganized spots. A chocolate coloured liquor with a sediment filled the bronchiæ and the larger tracheal subdivisions.

The œsophagus was sound. The stomach showed clusters of bright red and brownish-red spots, in stellated and other irregular figures extending along the smaller curvature. The duodenum, at its commencement and in its course, presented similar clusters. The rest of the intestine was healthy. The brain was to appearance in a natural state.

IV. Peter Johnson, black man, aged 38 years, unprotected, was taken sick on Monday, 29th March, in Sandy Hook. Eruption of small-pox appeared April 3d, Saturday morning. Admitted same day.

4th. Eruption copious on face; papular and of irregular figure. Eyes suffused and red. On arms, same appearance as on face, but less tuberculous. On breast and body, eruption small and pointed; beginning to show on legs. Throat sore. Tongue yellow and loaded at sides; red in centre. Pulse full, equal, and rather frequent. Cough.

5th. Much anxiety and moaning. Eruption rough and tuberculous on face. On arms, it is in parts papillary and pointed, and in parts flat with indented centres. Pulse slow and equal.

6th. Eruption hard and tuberculous on face and arms; small and pointed on breast. Pulse slow; throat less sore; mind wandering. Is sitting up in bed, dressed. Tongue moist and yellow.

7th. Delirious through the preceding night; is now dozing. Eruption same as yesterday. Not so thick on legs, but hard and tuberculous.

8th. Tongue black and incrusted. Throat very sore. Eruption hard and flat. Pulse active.

9th. In a comatose state. Pulse slow. Skin cool.

10th. In the same condition. Drawn down in the bed, the thighs flexed on the abdomen, and lies on his side.

11th. Dead at six A. M.

Examination.—The upper surface of the tongue of a brownish yellow, full of holes and rough. At the posterior part, in place of the larger papillæ, were ulcers and cavities. The posterior nares and pharynx were covered with holes, formed by ulceration, and of a brownish hue, adjoining injected and apparent pustular parts. Tonsils ulcerated, and their investing membrane mostly destroyed. The œsophagus immediately below the glottis, smooth and sound. Yellowish matter flowing from the glottis. On opening the larynx, it was found half filled with a viscid light olive-coloured fluid; on removing which, the whole lining membrane, down to the bifurcation of the trachea, was found covered with clusters of ulcerated pustules of a yellow colour, with the intervening spaces of a brownish-red, highly injected, and destitute of its natural smooth, shining appearance. The internal surface of the glottis and epiglottis was in a similar but less marked state as the larynx and trachea. The pustular surface extends to the minute ramifications of the bronchiæ, and their cells beyond were highly injected.

On opening the abdomen, the omentum was found dark and shrunk. Stomach contracted. Intestines distended, shining, and very vascular, with capillary injection when viewed externally. The peritoneal covering of the stomach showed a similarly injected appearance.

The stomach being opened, displayed at its upper curvature, spaces studded with spots of a deep red or purple; apparently effusions surrounded by a vascular net-work. Same appearance towards the pyloric orifice, and in places on the duodenum, which, together with the jejunum, particularly the latter, is of a dark leaden colour, and injected.

The diaphragm on its upper surface, highly injected, as was also the pleura lining the thorax. The pericardium healthy.

The brain was not, unfortunately, examined.

V. Jacob Fry, black man, aged 30 years, unprotected, was taken sick on Sunday, 11th April, 1824. Eruption appeared on Thursday, April 15th.

16th. Admitted and visited. Eruption copious and papular on face; smooth and flat, with dark centres, on trunk and arms. Tongue loaded. Cough. Tenderness of epigastrium on pressure. Throat sore. Pulse small and threaded. Eyes muddy.

18th. Eruption flat and rough; diffused over face. On breast red and flat; on limbs in clusters, shrunk, and hollow in centre. Pulse small.

19th. Tongue moist. Pulse small and frequent. Throat much swelled. Restless, and somewhat delirious.

20th. In a comatose state; but is roused to attention by calling him.

21st. Dead at five P. M.

Examination, April 22nd.—On opening the thorax, the lungs were seen to appearance healthy. Both adhered to the pleura costalis. The pleura lining the diaphragm, and also the pericardium, were finely injected. Fauces inflamed, injected, and ulcerated. From the tonsils oozed out pus.

The larynx contains a light olive coloured fluid, muco-serous, which likewise covered the trachea and bronchiæ. The lining membrane throughout was rough, and exhibited a net-work of a brownish-red colour, finely injected.

The œsophagus about half way down, has its lining membrane removed for one-third its length, showing miliary points on its muscular coat. The stomach on its outer surface, and near its upper end, showed a black spot, like effusion of black blood, under the peritoneal coat. On examining the œsophagus near the cardia, it was found of a dark colour in lines. From the cardia, half over the inner surface of the stomach, radiates inflamed membrane of a deep red colour, and corroded at the place corresponding to the dark spot above mentioned. Red spots near the pyloric orifice. Intestines not diseased. Liver adherent by its right lobe to the ribs; this lobe was of a greenish leaden colour. No alteration of its structure. Brain injected in its arachnoid coat. Ventricles contained some serum. Tela choroides dark and gorged.

VI. William Lawrence, aged 18 years, unprotected, became sick on Saturday, April 17th. On Sunday taken to the Alms House, and on Wednesday 21st was transferred to the Hospital.

21st. Eruption fine and papillary on face; red and scarcely raised on arms. None on legs. Has cough since yesterday. Pulse slow and regular. Tongue brown, and incrusted in centre. Moist on sides.

22nd. Eruption confluent and red. Papulo-vesicular on face and arms. Flat, dry, and copious all over the trunk. Scattered and small on legs and feet. Pulse small and regular. Tongue loaded and brown in middle. Eyes sparkling. Is delirious and very restless.

23d. Eruption very copious all over the body, rising vesicular from red margin. Pulse small and slow. Tongue loaded, furred, and yellow. Head and back easier. Has slept well. Face deeply suffused with red.

24th. Cough. Eruption flat, indented centres, dark in places. It is now coming out on legs. Pulse small and firm. Skin cool. Much uneasiness and hurried breathing.

25th. Dead at seven A. M.

This man had been bled twice before his admission, and once again on the 22nd. Cold affusions had been freely used.

Examination, on the 26th April.—Pericardium sound, but contained much sanguinolent serum. Pleura sound. Lining membrane of pharynx partly destroyed. No ulceration. Tonsils give out pus on pressure.

Œsophagus of a dark red, and partly lost its inner membrane. Larynx and trachea injected; but the membrane lining them is entire, without pustules or ulceration. Some frothy effusion in bronchiæ.

Liver healthy. Spleen large. Omentum sound, and of a natural white colour, traversed by some large veins. Stomach externally of a brown-red colour; and when opened, presents, spread out from the cardiac orifice, dark brown-red streaks; and towards the pyloric orifice and upper side, an extensive surface shaded over with vermillion and darker spots. Near the duodenum, the surface is white. Intestines slightly injected. Bladder dotted all over with bright red spots on its inner surface, which is covered with a fine capillary reticulated structure.

VII. An infant, white, unprotected, aged three weeks, child of Clarissa Clarke, who had been inoculated twenty-one years ago. Taken sick on Sunday, 2nd May. Eruption appeared Thursday, 6th. Admitted 9th.

10th. Eruption copious, and in confluent patches, with red bases, and flat vesicular summits. Has also aphthæ.

13th. Eruption confluent, in large white patches on face. Throat very sore.

15th. Dead at eight A. M.

Examination.—The stomach of a light colour, perfectly healthy. Folds and plaits of mucous membrane strongly marked. Mucous surface of trachea nearly healthy.

VIII. Infant, female, of a woman who died in the Alms House of varioloid disease, shortly after giving birth to this child. It is three weeks old; was admitted Sunday, 25th April, second day of the eruption. Dead on Thursday, 29th. The skin became livid after death.

Examination.—Pharynx inflamed, and the eruption on it extending all the way down the œsophagus, to near the cardiac orifice; the lining membrane being also in part destroyed. Stomach of a fine clear red, and beautifully injected to the minutest capillaries all over the mucous surface. Intestines, both large and small, red and injected.

The larynx has some eruption on its lining membrane. The trachea and bronchiæ nearly healthy; there being no eruption or secretion on their surface.

Doctor Darrach was present at the majority of the above detailed examinations, and kindly officiated at some of them. This gentleman, well known for his zeal in the study of comparative and morbid anatomy, made many interesting microscopical examinations of the various kinds of variolous pustules, and the corresponding changes in the cutaneous tissue, the results of which, we hope, he will make public.

Having thus freely described what we saw, we wish it were in our power to lay down next, for the benefit of those who come after us, a satisfactory method of treating small-pox. The hospital returns are not of such an encouraging nature as to make our self-love predominate over observation and experience, and lead us to inferences which might seem to sanction the utility of this or that medicine, or curative plan. We had to deal, it is true, with the worst portion of the community; persons of constitutions exhausted or perverted by excess of sensual indulgences, or by poverty, or both conjoined. In private and even dispensary practice, where the subjects were of a better physical and moral nature, we often saw the disease subside, and health return, after less attention to administer medical aid, or to supply other wants, than was exhibited at the hospital. We are, notwithstanding, sanguine enough to anticipate useful results from our attentive study of the symptoms of the disease, in connexion with that of the post mortem examinations, and to consider ourselves as in possession of lights to guide us with more certainty than before. Let us see how far a cautious analysis will tend to dispel old errors, and establish useful truths.

The gastric distress, and the associated uneasiness and pain in the head, back, and limbs, with evening exacerbations of fever, for the three days preceding the eruption, evince conclusively a disease to which the skin is a stranger, except by its usual sympathies of heat and coldness, moisture and dryness. The appearance of the tongue, the loss of appetite, thirst, nausea, and occasionally vomiting, are testimonies to the impeded function of the stomach in this first period, or that of precursory fever: and if to this we add the soreness of the fauces and pharynx, producing impeded deglutition, we cannot refuse our assent to the belief that the mucous surface, on which the *preparatory process* of digestion takes place, is mainly affected. The next leading symptom is the appearance of the eruption on the skin. The character of the disease is now fixed, and the physician feels himself compelled to respect the cutaneous inflammation, throughout its entire course, naturally enough regarding it as the disease itself, rather than the last link in the chain of morbid actions. To support the circulatory system at such a degree as shall enable the skin to secrete this new matter of small-pox, is nearly as much as he proposes to himself. But here arises a question of great practical moment. To what extent, if any, is the eruption a natural or necessary sequence of the previous symptoms or condition of the system. Perhaps in the existing state of medical science, we hardly dare reply positively to this question. This much we know, that there is no correspondence in general between the intensity of the precursory fever, and the copiousness of the after eruption. We are, moreover, well apprized of the fact of very many, who had been protected in earlier life by inoculation or vaccination, being seized with all the symptoms of the precursory fever of the small-pox, and remaining seriously indisposed for a few days, yet with very little eruption in some cases, and without any in others.

Next we may inquire, what control, salutary or otherwise, we can exercise over the skin in reference to its eruption, by adopting certain methods in medicine and hygeine, during the period of invasion or of precursory fever. To foster the germ of the poison, as yet only affecting the inner surfaces, into efflorescence on the outer or cutaneous one, by hot air, warm and heavy clothes, and cordial drinks, is a practice, which, though at one time advocated on what was thought very sufficient theory, is now abandoned as at war with experience. Of these means, clothing acts primarily on the skin, and we will suppose heat to do the same: the cordial drinks must however affect this organ by stimulating and irritating the gastric and intestinal surface. Against all stimulation of this surface we are then bound, from knowledge and theory, to object.

The cooling regimen as it is called, was substituted for the alexipharmic, in so far as regards light clothing and cool air. Can emetics and purgatives be viewed as a part of this regimen, and exert as such a salutary influence over the second period of the disease, or that when the eruptive effort takes place? Admitting they are but local stimulants, can they as such be with advantage applied to a surface, as that of the stomach and intestines, already highly irritable, and which, as the disease advances, becomes inflamed? If our object be in this first period to diminish the violence of the second or eruptive one, we doubt whether our expectations will be at all met by any kind of stimulant to parts, which so promptly transfer their irritation to the cutaneous surface. Whatever may be thought of these suggestions; whether they are to be regarded as well-founded, or merely speculative, must be a subject of future investigation; since we are as yet compelled to deny that experience can be adduced in favour of the practice of vomiting and purging in the first period of variolous disease.

On the same line with the remedies just mentioned, have been placed bleeding, general and local, though as we apprehend, very erroneously. There is not in bleeding as in purging, conflicting and alternating effects of debility from evacuation, and irritation, primary and sympathetic, from local stimulation; but a direct diminution of morbid action, more tranquil movements of the heart and capillary system, that is of the circulatory apparatus, and of the membranes, mucous, serous and cutaneous, &c. Bleeding, unlike most other remedial agents, produces a direct calmness and ease in the animal economy: it does not like them substitute one disturbance for another, or make the great appear the lesser evil. The experienced physician well knows the value of this remedy, in the first period or invasion of the phlegmasiæ, and of some fevers called general. He is fully aware, that if he cannot produce by it a decided impression on the malady in the commencement, he is but too often afterwards a prey to doubts and anxieties, wishing to relieve, but unknowing what to attempt. Conceding, however, the power of venesection, in the forming stage of the disease, now under review, so that we by this remedy may control the series of morbid actions in the second period, and diminish the extent of the eruption; it may yet be seriously asked, whether we can with safety and propriety prevent or destroy the succession of changes to which the skin is subjected, from the first papulæ on to desiccation. On this point, we believe, has turned the practice of the profession at all times, whether in the ages of humoralism, or in the reign of solidism. In addition to the reasons already assigned, which would lead us to doubt the necessity of the eruption being left uncontrolled, or even suffered to run its course, we may appeal to the practice of inoculation, which as effectually saturated the system, and indisposed to subsequent attacks, as if the skin had formed a continuous pustular surface; and yet this benefit was often gained by the trifling tax of a few days' fever, and half a dozen of pustules. Where the fever runs high and the respiration is much affected, in the first period of measles, and before there is the slightest appearance of eruption, we conceive it often to be our duty to bleed freely, without reference to the subsequent disease of the skin, or any nicety of calculation about this latter going through its regular stages. Indeed, we have usually reason to congratulate ourselves for having, by this means, rendered the subsequent disease milder and more tractable. That affection of the urethra termed gonorrhœa, the product of contagion, will, if left to itself, go through its several stages; and, if rest and regimen be enjoined, will often leave the subject healthy as before. But we can, notwithstanding, cut it short with perfect impunity, by suitable remedies, and thereby prevent numerous unpleasant symptoms and effects, which are often present when the disease is left to nature. Syphilis has its several stages, each marked by characteristic symptoms; but the skilful treatment of the first stage prevents, how beneficially we all know, the appearance of the others. We must then in small-pox, as well as in other diseases, beware how we confound a common and even natural, with a necessary and unavoidable succession of symptoms and periods.

The precursory fever in small-pox is seldom marked by the same common inflammatory symptoms as that in measles; and does not seem, by its actual violence, to urge the physician to deplete with freedom, if he only have regard to the existing condition, rather than to the impending danger and complication. The diversity in the two diseases consists not so much in the greater intensity of the latter, as in the more decided gastro-enteritic derangement in the former. Experience has not yet sanctioned the benefit of copious bleeding from the arm, in incipient disease, or irritation verging to inflammation of the intestinal surfaçe, as in small-pox; while its efficacy is admitted in measles. But conceding its doubtful character, local bleeding, as by cupping, and leeching on the abdomen, might be serviceably employed in the form of disease now under consideration; as we know it to have been in other febrile affections, where the same parts were diseased. Topical depletion does unquestionably exercise the best effect on membranous inflammation. In addition to cool air, we may with some confidence have applied at this time to the skin, cool, if not cold, affusions; while cold or cool drinks, and these of mucilaginous kind, would constitute the principal ingestæ and medicines. Our own experience was little favourable to the efficacy of cold water, applied to the surface during the eruptive stage; and we apprehend, that, if decided benefit can grow out of its use, it must be during the first or precursory fever, before the formation of vesicles has commenced, when every thing is to be attempted to sooth irritation, and prevent febrile reaction.

The first period over, the eruption on the skin now appears, and constitutes a leading and exceedingly important symptom of the disease. This eruption, like many others the product of gastric derangement, acts for a time as a counter-irritant, and as such affords temporary relief to the internal organs; but when continued, as in the farther progress of the disease, it, in common with all irritants on the skin, returns with interest to the digestive tube, the irritation which it first received from this latter.

We must not lose sight of the state of the lining membrane of the lungs during this time. It cannot be said so much to sympathize with the skin, as to be affected by continuous disease; since the eruption on the mucous membrane of the larynx, trachea, and its ramifications, undergoes nearly the same changes, in the same time with that on the cutaneous surface. The danger and violence of a disease in which the three surfaces, cutaneous, pulmonary, and gastric, are all organically affected at the same time, must be very apparent. Even though there be no eruption on the internal coat of the stomach, its appearance after death, of high vascularity and sanguineous injection, corresponding precisely in appearance with the circles found in the lungs, of which the pustules were the centres, justifies this belief of its being organically affected. Each of the three above mentioned surfaces is in degree ancillary to the others, and each may, on occasions, partially supply their functions; but in this period of variolous disease, our hopes of such vicarious action must be very faint indeed, and hence the hazard attending any application to any one of them.

Are we from these appearances to pronounce the eruption a phlegmasia of the skin and lungs, associated with a previous one of the stomach, and recommend the free use of venesection? Life may occasionally be prolonged, or at times saved by this means; but the disease will not be thereby materially arrested in its course, or modified in its appearance. We shall find that the inflammation of the membranes, consisting as most of them do of cellular tissue and minute capillary vessels, is often not susceptible of being checked by general depletion, carried even so far as to almost empty the larger arteries, and arrest the heart's motion.

Still more will this inflammation persist, if it have gone to the extent of forming new parts, whether phlegmons or pustules. The intensity of the inflammation may be somewhat moderated, but it cannot be conquered now as at the commencement, or during the first period, or that of invasion. We cannot, from our own experience, speak favourably of the remedy in the second, or eruptive stage. It did not answer our expectations, though employed in subjects apparently the best constituted to derive the good effects proposed from it. We must at the same time grant, that it was complicated with other remedies. Of topical bleeding, we are unable to speak, not having seen it tried. In this period of the disease, it must be of very difficult execution. Still less reason have we to boast of the good effects of purging. Though the skin may for a while be relieved by the watery secretions from the intestinal canal; yet the irritation of the latter, consequent on purging, is soon communicated to the cutaneous surface with the effect of aggravating the eruption. To the class of stimuli or stimulating diaphoretics, the same objections apply with increased force. As on the one hand, in cases of high fever, seeming to call for great depletion, the surfaces are often not relieved by general bleeding, but retain their own vitality; so on the other, in cases of apparent prostration, and feebleness of circulation, they often retain all their morbid activity, and will of course be materially injured by stimulation, either of hot air to the skin, or heating drinks to the gastric and intestinal surface. Of the various diaphoretics employed, we had reason to be least dissatisfied with the combination of opium and ipecacuanha in small doses. In some few cases, tartrate of antimony and cream of tartar, dissolved in rice or barley water, and the solution used as a drink, seemed to be beneficial. Several grains of the former were thus taken in the 24 hours, without its producing vomiting or purging. But in very many other instances of the disease, this medicine had no ameliorating effects. Calomel alone, or in combination with opium, was given, and in a few cases caused *ptyalism*. We did not lose persons thus affected, but we cannot speak with any confidence of the propriety of the treatment.

The application of cold water to the skin, was tried by us on the strength of its alleged good effects in this disease, but in no case had we reason to be satisfied with it. The state of the cutaneous surface, during the vesicular and pustular stages, is such as to prevent its transmitting the usual impressions to the interior. Cold may deaden it, and hasten the disorganization of its tissue, but cannot arrest and suspend morbid capillary action here, as in ordinary fevers, or diseases with great local determination, as to the head, &c. If useful at all, it will, we apprehend, be in the forming stage of the disease, before the skin is altered by the eruptive effort. The same objections do not hold against the internal use of cool or cold liquids. We have in this instance to be regulated by the usual precautions, as in all febrile disease where the gastric system is the greatest sufferer. More benefit will follow the sustained use of cool, than the occasional administration of very cold draughts; since in the former case the morbid action of the mucous surface may be restrained in due bounds, without the risk and danger of reaction, and increase of heat and thirst, which are apt to ensue from the latter. The same principle will guide us in the temperature of the air to be inhaled by the lungs.

The secondary diseases, erysipelas, catarrh, and pneumonia, occurring on the decline or subsidence of the variolous disease, would, we may now presume from the phenomena in life, and the autopsic examinations, bear and require a treatment, nearly similar to that used in these diseases arising under other circumstances. Perhaps leeching and cupping ought to be substituted, in such emergencies, for bleeding from the arm.

The extension unavoidably given to this first branch of our subject, requires that we should defer the history of the modified small-pox, or varioloid disease, to the next quarter, when it shall appear in the corresponding number of this Journal.

EXPLANATION OF THE PLATE.

Figures 1, 2, 3, represent various appearances of the lining membrane of the stomach.

Fig. 4, is a portion of the œsophagus; but the red bands ought to run vertically, and not horizontally, as in the plate.

Fig. 13, is another appearance of the stomach.

Fig. 12, indicates the eruption having gone on to ulceration in the pharynx.

Fig. 6, displays the appearance of the lining membrane of the trachea, on the 6th day of the eruption, as in the case of Ann Collins.

Fig. 5, is intended to represent the same part in an advanced stage of the disease, as in the case of Joseph Foster.

Resembling this is the case of Peter Johnson, as far as regards

PLATE I

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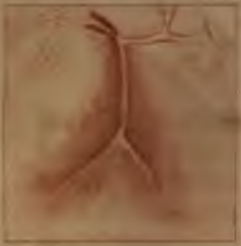

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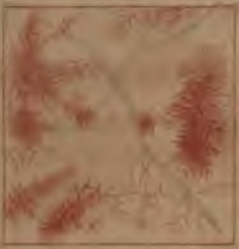

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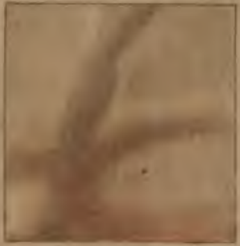

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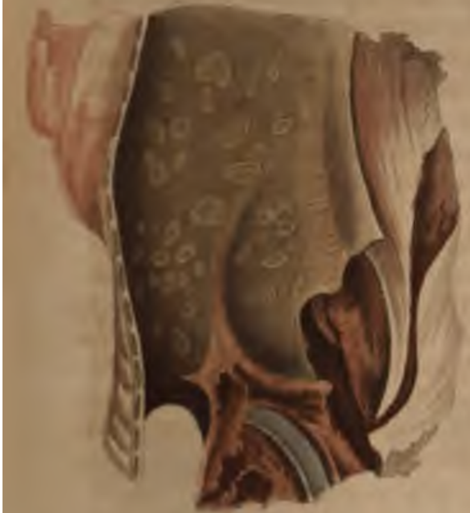

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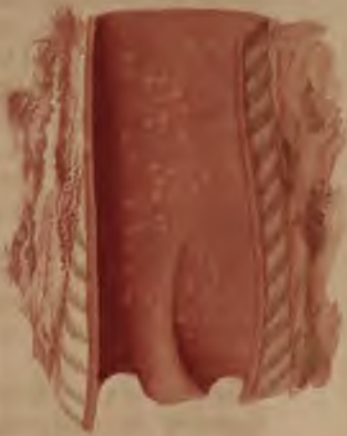

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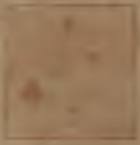

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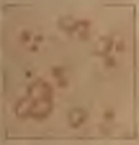

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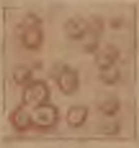

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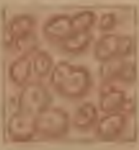

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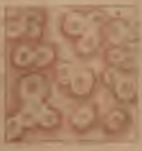

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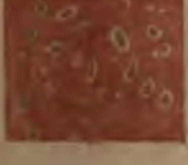

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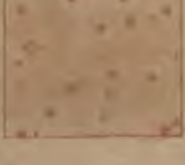

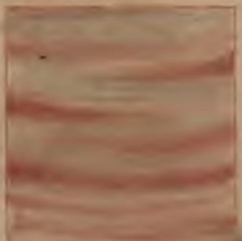

the ulceration and dark colour of the intermediate surface; but differing in the disorganization of the membrane being less.

Figs. 7, 8, 9, 10, and 11, represent the progress of the eruption, in a female, from its incipient to its maturated state. The same section of skin is represented from the 1st to the 5th day of the eruptive stage, on which day the patient died. On the 2nd day, (fig. 8,) the vesicles began to exhibit a central lividness, which was augmented on the subsequent days. The patient had been some years before successfully vaccinated. She was delivered of a child on the 1st day of the eruptive stage. The minutes of this case have been mislaid; but the post mortem appearances were indicative of high action, if not inflammation, of the uterus and its appendages. The infant of this woman, forming Case VIII. died of small-pox three weeks afterwards, on the sixth day of the eruption.

This plate, together with some others yet unpublished, are from the accurate pencil of Mr. now Dr. Harrington, of this city.

(TO BE CONTINUED.)

Article IV.—*Remarks on the Pathology and Treatment of Yellow Fever.* Arranged from the Notes of Dr. J. A. Monges, of Philadelphia.

I arrived at St. Domingo in the year 1785, and from that period to the time of my departure from thence, I had very ample opportunities of observing and treating the diseases of that island, both in the country and at the Cape. During the whole time of my residence there, the ordinary febrile diseases of hot climates were of very frequent occurrence, especially among the new comers, and those not acclimated; but the real yellow fever, or vomito negro, never prevailed. So that when I reached this city in 1793, I never had had an opportunity of observing this disease.

As introductory to the subject more particularly before us, I shall offer a few remarks on the nature and treatment of the fever, which prevailed in that island. It was usually of the remittent type, of a bilious nature, and rather violent in its character; presenting very often symptoms of a typhoid, or malignant condition of the system. In almost every case, it was attended with great gastric irritability and pain; and, in very many instances, accompanied with vomiting of dark green, and even of black bilious matter,—determination to the brain producing delirium, coma, &c. &c. In general, this fever differed but little from the bilious fevers of this country; except, perhaps, in its greater severity, and in a larger quantity of bile commonly evacuated. The treatment of this disease, at the time of my arrival, was generally attended with some difficulty, owing to the great prejudice prevailing against the use of the lancet; not only among the mass of the population, but even among the old physicians of the island. Experience, however, having taught me, that venesection was essentially necessary in fevers of the same sort, which I had noticed in other places, I resorted to it, notwithstanding the existing opinion; and am now convinced, that by its means I saved many patients. Nor was I the only one to adopt this mode of practice; as it was commonly resorted to by all *new* physicians, who were soon found to be more successful than the older practitioners. To arrest the violent vomiting, already alluded to, it was of the highest utility, and, in many instances, the only remedy that could be depended upon. Emetics were very commonly used, and sometimes with great benefit; but, in many instances, they were contraindicated by the pain and irritation of the stomach.

Cooling and saline purgatives were advantageously employed, as well as the saline mixture, and nitre and camphor in small and repeated doses, a very favourite practice in the place. In a more advanced period, and when the fever assumed a typhoid type, blisters, bark, and serpentaria were resorted to.

I arrived in Philadelphia on the 20th of August, 1793, and on the 22nd of the same month, began to see patients. The epidemic was then at its height, and such was the demand for physicians, and the prevalence of the idea, that, as I came from the West Indies, I must be familiar with the yellow fever, that I soon became very extensively employed. Such, indeed, was soon the extent of my engagements, that I was compelled for a time to refuse my attendance on many patients, and to limit my visits from Race to Dock streets, and from the water to Third street.

From the first time I had an opportunity of seeing the yellow fever, I perceived that there existed but a very distant, if any, analogy between it and the fevers I had been in the habit of treating in the West Indies. And this opinion I have ever since entertained, in opposition to the statement of many respectable authorities; but in conjunction with some highly respectable physicians and friends, who, like myself, had had an opportunity of treating both diseases. The points of difference between these fevers will be noticed in a subsequent part of these observations. But although entertaining this sentiment, I very early came to the conclusion, that the yellow fever was the effect of a gastro-duodenic inflammation, somewhat modified by some unknown cause,—requiring the usual remedies for such a complaint, proportioned only to the strength of the patient, and the force of reaction in the system; and all my subsequent experience has only served to confirm me in this belief. Differing from many physicians respecting its bilious character, I have been led to believe, that the liver is very seldom implicated in the disease;—the secretion of bile, in the majority of cases, being very little, if at all altered. This may very readily be discovered by an attentive examination of the symptoms of the disease, as well as by the appearances noticed on dissection; the lining membrane of the stomach and duodenum presenting in almost every case, marks of inflammation, and giving passage to a large quantity of black matter, which I have always been led to regard as altered blood, mixed with mucus. The liver, on the contrary, so rarely showed marks of disease, that when it did, it was natural to regard its alteration as secondary.

Such being my opinion respecting the pathology of yellow fever, I cannot view otherwise than as secondary to the gastric affection, all the morbid conditions of other organs, indicated during life by their peculiar symptoms, and revealed on dissection by the ordinary marks of inflammation; such as affections of the lungs, kidneys, &c. This view of the subject will cease to be regarded as merely hypothetical, when it is recollected, that these symptoms and morbid appearances are occasionally not found; whilst the symptoms referrible to the gastric and duodenic irritation, being the true characteristics of the disease, are always present. Indeed, what would authorize us to regard any subject as affected with yellow fever, who would not present the pain in the stomach, the redness of the tip of the tongue, the thirst, irritability of the stomach, and vomiting either of simple mucus, or black matter? And, on the other hand, how many have died with these symptoms, who were not affected with all the others we have noticed, and, on dissection, have shown no mark of disease, except in the digestive apparatus? Finally, can pain in the head, affections of the kidneys, vomiting of bile, &c. constitute yellow fever, without the concurrence of some of the gastric symptoms we have enumerated?

With respect to the characteristic features of yellow fever, and the different signs, by which it may be distinguished from bilious fever, I must be very brief; as a great deal having been written on the subject, any long details in this place would occasion undue repetition of what is already known to the profession. A few words, however, may not be improper. Every one who has had frequent opportunities of seeing the yellow fever, must have noticed, among its most habitual signs, a peculiar inflamed glassy appearance of the eye, easily recognised, but difficult to describe. It is one, however, on which I should be willing to place considerable reliance, in establishing my diagnosis of this disease; as I do not recollect to have noticed it in any other form of febrile affection. Together with this, there is, in the majority of cases, an intense supra-orbitar pain, apparently unconnected with great disordered action of the brain, as the intellectual functions are generally unimpaired. These two signs, together with pain in the loins, and, in more advanced periods, the peculiar appearance of the skin, the vomiting of the coffee grounds matter, the intermission on the 4th day, the retention of muscular strength, and suppression of urine, are the only signs by which the yellow fever, so far as I am prepared to say, may be recognised. In regard to the supposed identity of this fever with the bilious, a great deal has been written; but I must confess, that I feel inclined to doubt the correctness of this opinion, for the following reasons:

1st. Bilious fever is almost always a remittent fever, presenting regular exacerbations, and, unless arrested by medical aid or some effort of nature, running its course, in a progressive manner, either to a happy or fatal termination; whereas the yellow fever is almost invariably a continued fever, presenting obscure and irregular, or even *no* remissions. On the fourth day, it generally presents so perfect a remission, as to cause the patient, in many cases, to imagine himself perfectly free from disease, and induce him to get up, and even sometimes to walk out. This remission, which sometimes amounts to an intermission, so far as an experience of upwards of forty years can authorize me to decide, is never found to attend in bilious fever, in which, if there be any remission, and recurrence of the unpleasant symptoms, the former is always a real convalescence, and the latter an accidental relapse.

2nd. The red colour of the eye, to which I have alluded above as occurring in the early stage of the yellow fever, and its peculiar yellow tinge in the after part of the disease, are different from the redness and yellowness of the same organ in bilious fever; in the first stage of which the eye presents a more fiery redness, and in the subsequent period, a more saffron yellowness.

3d. The colour of the skin in the two diseases presents also some difference, being more constantly noticed in yellow fever, and disappearing much more rapidly than in bilious fever. In yellow fever, moreover, it assumes, most commonly, a yellowish-brown or even mahogany tinge; whereas in bilious fever, when it occurs, it does not differ from the ordinary jaundice colour, of a lighter or deeper shade.

4th. These fevers may likewise be distinguished by an attention to the state of the intellectual faculties, and of the muscular strength; these remaining often unimpaired to the last in yellow fever, whereas, in a very large majority of cases of bilious fever, the mind becomes soon involved in the disorder of the system, and the greatest muscular debility prevails, even from the very onset of the attack.

5th. The matter vomited might of itself serve to distinguish the two diseases. Independently of the difference we shall notice when speaking of the black vomit, we may mention that patients complain, even sometimes from the commencement of the attack, of the acidity of the vomited matter; whereas in bilious fever, the mouth is bitter, and the matter ejected of the same taste.

6th. As a further mark of difference, we may state, that, in yellow fever, the tongue, except at the tip, the skin, and the pulse are sometimes little altered; whereas in bilious fever they are usually pretty much so.

7th. In respect to the duration of the two diseases, we may state as a general rule, that yellow fever runs its course to death or convalescence, in a much shorter time than bilious fever. Nor is the promptness of recovery from yellow fever less different from the slowness of convalescence, noticed in most cases of bilious fever.

8th. The suppression of urine is a frequent attendant on the last stage of yellow fever, and is seldom noticed in bilious fever.

9th. I have never witnessed a second attack of yellow fever in the same individual; whilst on the contrary, so far as I have seen, there is no limitation to the number of times a person may be affected with the other form of fever.

Prognosis.—As regards the prognosis in yellow fever, I shall merely state, that I generally found, an early evacuation from the alimentary canal, and a disposition to diaphoresis during the first twenty-four or thirty-six hours, and its continuance during the course of the disease, to be favourable omens. When the disease continued beyond the 7th, 9th, or 11th day, greater hopes might be entertained. It was likewise found, that the mortality was much smaller among patients, who remained free from apprehensions as to the nature and termination of the disease. To this cause, more than any other, do I refer my greater success among Quakers; who, being generally surrounded and comforted by their friends, retained more than any other class of people, the necessary tranquillity of mind.

Among the unfavourable signs may be mentioned, a discoloration of the skin before the fourth day. This symptom was, indeed, almost always a fatal one. Obstinate vomiting and costiveness, hæmorrhages from different parts of the body, unattended with an abatement of the symptoms, and vomiting of black matter, were very unfavourable; whilst a suppression of urine, agreeably to my experience, was always a fatal sign.

Black Vomit.—In a preceding part of these observations, in alluding to the black vomit, I took occasion to express my views respecting its nature,—stating that I regard it as consisting of mucous flakes, mixed with a large proportion of altered blood. That such is the true nature of this substance, on which so much has been said and written, I have had sufficient reason to be convinced. The opinion that it consists of altered bile, I deem totally untenable, for the following reasons: The matter is occasionally voided in large quantities, in cases in which the liver is not at all affected, and in which, after death, the gall bladder is discovered to be more or less filled with *natural* bile. Independently of this, it may be stated, that the appearance of the two substances is very dissimilar;—the black bile vomited in bilious fever being of a homogeneous nature, and of a black or deep green colour; whilst the matter of the black vomit is, in a large majority of cases, a compound of a mucous, flaky substance, and a sanguineous matter, bearing some resemblance to the grounds of coffee, and, for the most part, of a brown tinge. When mixed with water, the two substances produce very different effects,—the bile mixing with and imparting a greenish tinge to it without difficulty, whilst the grounds of the other, float on the surface of the water, without mixing with and colouring it, in the same manner as bran, deprived of all its mucilage, or rather like mahogany saw-dust. This I consider as one of the best modes of distinguishing these two substances,—serving at the same time to establish a difference between the fevers, I was in the habit of observing in the West Indies, and the yellow fever of this country. Nor are these the only reasons for rejecting the supposition of the black vomit of yellow fever being of a bilious nature; for I have known this substance (and I suppose other practitioners have observed the same fact) occasionally to exude from surfaces, from which, in all probability, bile is excluded. I allude particularly to the skin and serous membranes. Thus it has often happened, that the application of a blister, especially in the advanced stage of the disease, has been followed by a copious exudation of a fluid, resembling, in all respects, the matter ejected from the stomach; an occurrence which was strikingly exemplified in a case, which fell under my immediate observation during the last visitation of the disease in this city, in 1820. During the same epidemic, I had occasion to attend a Mrs. H. about 70 years of age, who presented a curious example of the exudation of a similar substance from the peritoneum. She had not been exposed to the causes of the yellow fever, and indeed presented none of its ordinary pathognomonic signs. She was attacked very early in the morning with violent colic, attended with fever, great tenderness of the abdomen, and high colour of the face. She was bled at 10 o'clock; at 11 vomited a large quantity of coffee ground matter, and died in about 12 or 15 hours from the commencement of the attack. The next morning her body was examined in the presence of several highly respectable and experienced physicians, who all coincided in the opinion, that the matter vomited and which continued to be discharged from the nose, was identical with that discharged in yellow fever. The stomach as well as the intestines were found to contain a large quantity of a similar substance. The cavity of the peritoneum being likewise found filled with a large portion of it, we at first suspected the existence of an opening in the intestines, by which an effusion had taken place. After a careful and minute examination, however, no such opening was discovered. Our attention was now directed to the condition of the peritoneum itself, which was highly inflamed. It was, moreover, found, that the substance in question exuded from its surface,—the membrane, in many places, especially the portion of it which covers the liver, being coated so thickly with the grounds, that they could readily be scraped off with the back of a scalpel.

These cases show conclusively, that the matter of the black vomit, occurring in yellow fever, should not be regarded as altered bile; and that the supposition of its consisting of a secretion of the mucous membrane of the stomach, does not rest on a much more solid foundation. For bile can hardly be admitted to exude from the skin and serous membranes, and we cannot suppose, that fluids, similar in every respect, can be secreted from two surfaces, so very distinct in their organization, and in the nature of their ordinary products, as those of the mucous and serous membranes.

From these facts I am led to regard the black vomit as a true hæmorrhage, resulting from a state of previous irritation of the surface which furnishes it. That inflammation may be the cause of it, we have a sufficient proof in the fact. that a similar fluid is occasionally vomited in cases of puerperal fever, when the irritation progresses from the serous to the mucous membrane of the intestines; as well as in cases of inflammation from blows on the stomach, and the action of poisons. A case of this kind, arising from a kick of a horse, was attended by myself and two respectable physicians in consultation, a few years ago; and another case arising from a large dose of carbonate of potassa, swallowed by mistake, occurred in my practice not long since. But as it would occupy too much time to give them here in detail, I pass them by without further notice.

That the matter of the black vomit is the product of a hæmorrhage, I have thought may also be inferred from the fact, often noticed by myself and others, of large portions of coagulated blood being found in the intestines; the surface having the appearance of the common black matter, whilst on cutting into them, the centre is found to consist of a red solid coagulum. I have also sometimes noticed, that the duodenum contained the coffee ground matter, and the intestines, coagulated blood. In such cases, in order to adopt the opinion of secretion, we must believe, that the same vessels, occupied in the secretory process, afforded, at the same time, passage to a portion of common blood; for we can hardly admit, that the mucous follicles are the organs secreting the black matter. Besides, is this not a mere dispute about words; and is it proved that what are called sanguineous secretions are not the result of the same action, which gives rise to hæmorrhagic exudations? and is there any other difference between the hæmorrhage of yellow fever, and of ordinary cases of hematemesis, than that arising from a difference in the *quality* of the blood?

Nor do I find much difficulty in believing, that the colour of the skin, which is more frequently brown than yellow, as well as the petechiæ, &c. are the effects of the stagnation of blood, altered by the capillaries of the surface, in the same manner as that exuding from the mucous surfaces. I believe that this opinion, suggested by some European writers, is supported by the fact, that this fluid exudes from the orifices made by the bites of leeches and the incisions of scarified cups; as well as from the raw surface occasioned by blisters; and that the vibices contain a serous fluid mixed with blood.

Analogy to Plague.—On comparing the symptoms of the yellow fever of this country with those of plague, as detailed so minutely and, I believe, accurately by authors, and especially by the physicians who accompanied Bonaparte to Egypt, I have been led to regard these diseases as bearing a closer analogy to each other than has hitherto been admitted. I do not pretend to assert that they are the same disease, but only that they are so nearly allied, as on some occasion, to lead even an experienced observer into an error of diagnosis. The great difference between them consists in the frequency of the affection of the lymphatic glands in the plague, and its comparative rareness in yellow fever; and in the greater predominance of gastric symptoms in the latter. Nevertheless, I have had, on many occasions, during our different epidemics, opportunities of noticing buboes, situated in the same parts as those mentioned by writers on the plague, running the same course, and curable by the same means. Carbuncles are frequently seen in both diseases, though not so frequently in yellow fever as in the plague. Both diseases present what are called the walking cases. Patients in both, though more frequently in yellow fever, retain their muscular strength as well as their intellectual faculties. So far as we are informed, the mortality in both is pretty nearly the same, and the treatment similar.

Contagion of Yellow Fever.—The question of the contagion or non-contagion of yellow fever has so long occupied the attention of the profession and been discussed so extensively, that I deem it unnecessary to devote much space to it here. Nevertheless, as I have had frequent opportunities of noticing the disease under all circumstances; in all parts of the city, and in the country; among the wealthy and the poor, I may without much impropriety offer, in a few words, the result of my observations and reflections on this head. I must unhesitatingly declare, that, establishing my opinion on what I have seen, I am led to the conviction, that the yellow fever is not a contagious disease; that it never has been carried hither in the way mentioned by contagionists; and that it has invariably proved an infectious disease, using this word to express a malady arising from a local source of contamination, other than a living human body. It is plain, that this view of the subject does not exclude the possibility of a vessel carrying the disease to this or any other port; but, in that case, the vessel itself or its cargo, must be the source of infection, and not the individuals on board. And this may take place, when the port from whence the vessel sailed is free from the disease. That such has been the case, there cannot be any doubt; and that the idea, predicated on it, of the contagiousness of the fever is erroneous, I have not the least hesitation in believing.

How else than on the principle of infection, and not of contagion, can we explain the attack of individuals frequenting those parts of the city, where the disease had originated, and which (all the inhabitants having been removed to some distant situation) had been barricaded? How could we, in any other way, account for the exemption from the fever of individuals, who, out of the infected district, nursed, touched, and even slept with their diseased relatives and friends; and not always in clean and well ventilated apartments and parts of the city; but, in very many instances, in the filthiest hovels, and alleys, and among the lowest classes of society. Striking and unanswerable facts of the sort have frequently presented themselves to my observation, during our various epidemics. Children have sucked their parents, affected with the fever, and, in one case which fell under my notice, the child continued attached to the breast after its mother's death; and in all such instances with impunity. I have constantly reprobated the practice of burning the clothes and bedding of the dead, and have never found any bad results to occur to those who followed my advice. From a consideration of all these facts, I must once more express it as my decided opinion, that the yellow fever, so far as I have had an opportunity of observing it, is not a contagious disease.

Treatment.—Whatever opinion we may entertain respecting the specific nature of yellow fever, I was early convinced that this disease was not to be treated by specific remedies, and that our curative indications should be formed on an attentive consideration of the condition of the system in general, and of particular organs, as pointed out by the symptoms during life and the morbid lesions after death.

In a former part of these remarks, I suggested the opinion, that the yellow fever is a gastro-duodenic inflammation, (perhaps of a specific kind,) and that it required a mode of treatment appropriate to this morbid state; but proportioned to the strength of the patient, to the violence of the attack, and to the power of re-action. In general, however, I have not found active depletion by the lancet, as easily borne in this, as in bilious and other fevers;—the disease assuming more rapidly, under this plan, a state of prostration or adynamia. Nor can this appear surprising, since the same circumstance of a disease being of an inflammatory nature, but, under a peculiar condition of the system, contraindicating ample depletion, is a subject of frequent notice during certain epidemics; for example, of scarlatina, pneumonia, &c. With the exception of those cases, therefore, occurring in very robust and plethoric constitutions, and accompanied with much pain in the head, high febrile excitement, and a hard pulse, either large or small, I have seldom resorted freely to the lancet. When, however, these symptoms presented themselves, especially the hardness of the pulse, I have not been sparing of blood-letting, and have sometimes repeated it several times with the most decided success. But even under these circumstances, I have seldom found that *large* bleedings were as beneficial as small and repeated ones;—the system not reacting always as energetically as could have been desired, and symptoms of prostration occurring with much more rapidity. I do not recollect to have bled with advantage, patients presenting a large, full, but *compressible* pulse, owing to the want of reaction; although the other symptoms might seem to indicate the propriety of the practice. The effect of bleeding on the vomiting was very different in this, from what I mentioned it to have been in the bilious fevers of the West Indies; owing probably to the circumstance, that, when, in yellow fever, the irritation of the stomach became sufficiently violent to give rise to this symptom, the state of the system was very often such as to contraindicate the use of the lancet.

The application of scarified and dry cups to the epigastrium and head, when there existed pain in these regions, was often resorted to, and afforded much relief. And I very much regret, that, during our epidemics, it was out of my power to make use of leeches to the former part, as so warmly recommended, at the present day, by the French and Spanish physicians; as I am inclined to the opinion, from the view I have adopted respecting the pathology of the disease, that, used early and in large numbers, they would prove very serviceable.

In conjunction with general and local bleeding, fomentations were had recourse to in almost every case, and applied to the epigastrium in the form of poultices, or flannels wrung out of warm emollient decoctions. In order to excite perspiration and to determine action to the surface, a tepid bath was occasionally prescribed, and in some cases afforded considerable relief; but as it was an inconvenient remedy, pediluvia, and hot bricks on which water, or water mixed with vinegar was poured, were substituted. In cases, however, in which much arterial action existed, these last means were not prescribed, until the pulse had been brought down by the lancet, and other remedies presently to be mentioned.

On the subject of emetics, I shall not enlarge; as I can safely assert, that I very seldom saw a patient recover from yellow fever, to whom tartarized antimony, or any other active remedy of the same class, had been administered. Of the impropriety and danger of this practice in the present disease, I was early convinced from a careful analysis of the symptoms, indicating an acute irritation of the stomach and upper portion of the small intestines, and from the circumstance, that, of the first family in which I was called to prescribe, five members, to whom emetics had been administered, had already fallen victims to the fever, under the care of a very respectable physician, and that three succeeding ones, who were treated agreeably to my view of the pathology of the disease, recovered. From these facts and reflections, I was induced to watch the effects of these remedies in subsequent cases, in my own practice, and in the practice of other physicians, and was soon led, from this extended experience, to abandon totally the use of tartar emetic in the treatment of this malady. Ipecacuanha in emetic doses was also tried by me; but although, thus administered, it did not occasion the bad effects resulting from the exhibition of the preceding article, yet it was often productive of harm, and never of benefit. These remarks, however, apply more particularly to the use of tartar emetic during the state of excitement of the fever, and not to that of collapse which sometimes precede it, and in which it is recommended by some physicians of the southern states. In this condition of the system, I have never resorted to it, and, I must confess, could not easily be persuaded to do so; suspecting that even in such cases, the digestive organs are already too far implicated, to justify the use of so powerful and acrid a remedy.

It would seem that the bad effects of emetics, and more particularly of tartarized antimony, resulted, not only from their irritating qualities, but also from the efforts of vomiting, during which the stomach is compressed by the abdominal muscles, and made to contract very forcibly. To this opinion I am naturally led from the circumstance, that purgatives, whose action is certainly primarily irritating, are very advantageously employed in yellow fever. It is not my intention to attempt here an explanation of this seeming contradiction. Leaving to others the accomplishment of this difficult task, I shall content myself with stating, that during the whole course of my long practice, I have seldom seen a patient die of this disease, whose bowels had been well evacuated, and in whom perspiration had been excited within the first twenty-four hours after the attack. I exhibited purgatives in almost every instance *every day*, until copious evacuations had been procured, and I generally found, that the mild purges were of greater service than those of a severe and irritating nature. Senna, acidulated with lemon juice or tamarinds, answered sometimes remarkably well, when the stomach could retain it. Castor oil, manna, salts, magnesia, were frequently employed by me with advantage; and although I did not make an extensive use of calomel in this disease, yet I prescribed it to children, and to adults, who, owing to great irritability of the stomach, could not retain other purgative medicines. When I resorted to it, I generally did so in doses sufficient to ensure a purgative effect, and never with a view of exciting ptyalism. In doing this, I was not guided, however, by any fear of the effects of a salivation, since I was well aware that a ptyalism occurring in malignant diseases is often a favourable crisis; but by a knowledge of the great difficulty experienced in producing it, and from the observation, that in cases in which it was obtained, much valuable time had been lost, and the patient might have recovered without.

To promote the operation of the above remedies, purgative enemata were resorted to, in the early stage of the fever; and were followed by the frequent use of injections, composed of emollient decoctions, from which the patient derived considerable relief and comfort.

As counter-irritants, blisters and sinapisms were used, and often with great advantage. They were found of much value when applied to the epigastric region, for the purpose of arresting the vomiting. Sinapisms were in general preferred to blisters, as being more prompt in their effects and more easily renewed. Blisters were sometimes applied to the extremities in the different stages of the disease; but so far as I can judge, from my experience, not with much real benefit.

I seldom derived much advantage from the use of tonics and stimuli in yellow fever; except when the powers of life seemed to fail, and petechiæ, vibices, hæmorrhages, and other signs of malignancy had occurred. In general, under such circumstances, the Peruvian bark, either alone or combined with serpentaria, was administered in preference to any other remedy of the same class. In cases, however, unattended with reaction, tonics and diffusible stimuli internally, and revulsives of all sorts externally, were had recourse to from the commencement of the attack, and sometimes with the desired effect of arousing the powers of the system. *Opium* was never found beneficial, on account of its tendency to aggravate or produce coma, as well as from its effect in suppressing intestinal evacuations.

Whilst making use of the above remedies, the plentiful exhibition of diluent drinks was not neglected,—care being taken, however, not to load unduly the stomach, and to select such drinks as would suit the taste of the patient. In almost every case, acids did not answer so well as the bland mucilaginous infusions. The drinks were almost universally allowed cold, except when there existed a tendency to perspiration; under which circumstances, they were administered slightly warm and a little aromatic.

During the course of the yellow fever, some of the symptoms demanded particular attention. Influenced by the idea of prostration and dissolution, many practitioners, and myself for some time among the rest, resorted to the bark and other tonics for the purpose of arresting the black vomit, and of correcting that condition of the organs, which gave rise to this effusion; but after many unsuccessful trials, I was led to abandon this practice and to resort to other means. Of all the remedies employed to attain this effect, calcined magnesia mixed in a thick solution of gum arabic seemed to me to answer best; for whilst it succeeded, in many cases, in arresting the vomiting, it tended to keep the bowels open. Together with this, revulsive remedies were applied to the skin, and sometimes succeeded very well,—a sufficient proof, I think, that this hæmorrhage is the effect of an increased action of the mucous membrane of the digestive tube, and not of a passive condition of the capillaries of the parts. For the purpose of controlling the great irritability of the stomach, and arresting the vomiting occurring in the early stage of the disease, besides the usual remedies used in such cases, I found advantage in the use of small and frequently repeated injections with a solution of salts, an infusion of senna, or the like substances. Such a practice, however, did not seem to succeed so well in the latter stage of the disease.

With the intention of promoting the secretion of urine, in cases in which it was suppressed, all the diuretics, as well as every external stimuli, were in vain employed;—this symptom, as I have already mentioned, being, in all instances which fell under my immediate observation, the forerunner of death.

Article V.—*Remarks on the Prophylactic Treatment of Cholera Infantum.* By Joseph Parrish, M. D., one of the Surgeons to the Pennsylvania Hospital.

The great mortality of cholera infantum renders it one of the most interesting diseases, which come under the notice of the physician. Its ravages among the infant population of our large cities, are too well known, and too strongly felt, to require any comment. No disease contributes so largely to swell our bills of mortality during its prevalence; and were it not restricted to the summer season, it would prove a greater scourge to the community than consumption itself.

This mortality is owing less to our ignorance of the nature of the complaint, and the proper mode of treatment, than to the continued operation of the causes by which it is produced. I have often compared our endeavours to cure cholera infantum, while these causes remain, to an attempt to relieve inflammation in a part, while a thorn is sticking in the flesh. We may resort to bleeding and leeching; we may restrict our patient to the lowest diet, and the most perfect rest; we may employ all those remedies, which are ordinarily best calculated to reduce inflammation: but so long as the thorn continues in the wound, our efforts will be fruitless. Thus it is with cholera. We may obviate the more violent symptoms; we may procure temporary relief; we may even flatter ourselves that a cure has been effected: but the original causes have not lost their power; an increased susceptibility to their operation remains; relapse upon relapse is experienced; and at last the little sufferer, worn out by the successive attacks, sinks beyond the reach of medicine, and expires. Unhappily, the nature of the causes is such, that, in very many instances, their removal is exceedingly difficult, if not altogether impossible; and, under such circumstances, the patient who has once been severely affected, seldom recovers in the end. Hence it becomes of the greatest importance to prevent the occurrence of the disease; and attention to the prophylactic treatment is no less essential than the adoption of curative measures. It is with the view of calling the attention of the profession to this subject, that I have been induced to offer the following observations.

It is obvious, that, in the preventive treatment, two objects demand attention; first, to remove, as far as possible, the causes of the disease; and secondly, where their entire removal is not attainable, to fortify the system against their influence. On each of these, I shall offer a few observations.

1. Excessive and continued heat is, perhaps, the most fruitful source of cholera. Thus we find, that the disease makes its first appearance in the commencement of the hot weather, increases and becomes more fatal with the rise of the thermometer, and declines with the return of cool weather in autumn. During its continuance, it may be observed to vary with every permanent change of temperature. A few very hot days in succession, in the 6th month, are sufficient to call it into action; and during the height of its prevalence, a spell of cold weather will diminish, if not suppress it. In the summer of 1806, which was remarkably cool and pleasant, there was very little of the disease; and generally in moderate summers, it is much less prevalent than in those of a contrary character.

I believe that it is by a direct operation on the system, and not by the generation of miasmata, that heat proves so deleterious to the infant. In the country, where miasmata are most abundant, there is comparatively little cholera; for the heat of the sun is there moderated by the free circulation of the air; and the debilitating operation of the high temperature of the day is counteracted by the refreshing coolness of the morning and evening. It is in the close air of cities, that the complaint flourishes with greatest vigour; and the most confined situations are the most favourable to its production. Let any one take a walk, in a summer's morning, through the thickly built lanes and alleys of Philadelphia. He will be struck with the appearance of the children, reclining their heads, as if exhausted, upon the breast of their mothers, with a pale and languid countenance, a cool and clammy skin, a shrunk neck, and other signs of debility, arising from their confinement, during the night, to close and hot apartments. It will readily be believed, that such places are the very hot beds of cholera.

Heat, therefore, connected with confined air, being among the most frequent causes of the complaint, it is necessary, as far as possible, to counteract them. Should a strong predisposition to cholera be suspected, the best plan will be to send the child into the country during the summer. Both as a preventive and a remedy, country air is decidedly the most effectual, to which we can resort. But in most instances, it would be exceedingly inconvenient, sometimes impossible for mothers to leave their homes and occupations in the city; and, under such circumstances, it becomes necessary to substitute measures, which may produce, as nearly as possible, the same effects. To keep the child cool, and expose him to the fresh air, are the ends to be obtained. For this purpose, he should be carried frequently into the open squares, or beyond the suburbs of the city. I am in the habit of recommending to parents, whose circumstances will not allow of a removal from the city during the summer-season, to make frequent excursions across the Delaware, and into the neighbouring woods of New Jersey. The refreshing effects of the air on the river are truly surprising. The brightened eye and animated countenance of the infant. give speedy proof of their favourable influence; and when labouring under the disease, even in its lowest stage, the little patient will often exhibit immediate signs of amendment.

In the prevention of cholera, much may also be expected from a proper attention to the lodging of children. Many parents have a great dread of the night air; and exclude it from their chambers, as sedulously as if it were infected with poison. But, in guarding their children from taking cold, they expose them to a much greater danger. Observe their mode of treatment. The doors and windows are carefully closed; the child is placed in a feather bed, with his parents on each side, and almost smothered with the bed-clothes. Perhaps other children are lodged in the same apartment; and thus the delicate system of the infant is exposed to the debilitating influence of great heat and stagnant air, combined with the effluvia, which, in such a situation, must be abundantly generated. Simply to enter such a room in the morning, is almost sufficient to sicken a healthy individual; how much more injurious must be its effects upon the lodgers themselves. Examine in the morning a child, who has passed the night thus confined. You will find him limber as a rag, exhausted by perspiration, wholly destitute of animation, without appetite, and on the very verge of cholera. I should recommend an entirely different plan of management. Instead of a feather bed, the child should be placed on a hard mattress, or on blankets folded and laid upon the floor. The covering should be light, but comfortable. The doors and windows should be open; so that fresh air, that *pabulum vitæ*, without which health cannot be sustained, may be freely admitted. Thus treated, instead of the feeble and sickly appearance before mentioned, he will present a lively countenance, with all that activity of motion, and enjoyment of existence, which are natural to his age, and afford the surest criterion of vigorous health. Experience has fully convinced me of the great importance of attention to the lodging of children, as a prophylactic measure; and this renders me desirous of impressing upon the profession generally, the truth of my own convictions on the subject.

With the same design of obviating the injurious effects of a high temperature upon the infantile system, I advise frequent ablutions with cool water, and its free employment as a beverage. Infants, unable to make their wants known, often suffer exceedingly from the inability of their attendants to understand them. During the heat of summer, the increased evaporation from their surface is necessarily productive of increased thirst, which, if unsatisfied, renders them uneasy and restless. To quiet them, the breast or bottle is offered. Aliment is thus given, where drink only was required; and the stomach, overloaded and oppressed, is apt to become irritable, and is thus brought into a condition most favourable to the occurrence of cholera. By attention to the peculiar language of infants, expressed not by words, but by signs, I have often been able to detect their wants; and, in many instances, have afforded the most decided relief, by simply giving them a little cool water for drink. From the dread which some individuals have for cool air and cold water, it would seem that they were considered rather as destructive poisons than as absolute necessaries. I have no fear of either, when judiciously employed; and as prophylactics in cholera, I do not think their place can be supplied.

But heat is not the only cause of this complaint. Dentition is well known both to predispose the system to its attack, and, after it has occurred, to increase its violence, and diminish the chances of recovery. In the employment, therefore, of preventive measures, it is highly necessary to attend to the state of the gums, and to remove or counteract this source of irritation. If at all swelled or painful, they should be lanced freely, and the operation should be repeated as often as their inflammatory condition may demand. In severe cases, much good may be expected from the application of blisters behind the ears. The irritation thus receives an external direction, and the stomach and bowels are in less danger of an attack. I was led to this practice, by observing that the eruption, which, during dentition, is apt to make its appearance behind the ears, often proves a most salutary effort of nature; and that, while it continues, the infant generally enjoys an exemption from those dangerous disorders, incident to this critical period of life. To imitate nature as closely as possible, the discharge from the blistered surface should be maintained for some time by stimulating dressings. I have witnessed the most beneficial effects from the practice, and can strongly recommend it to the attention of the profession.

II. At the same time that we endeavour to remove or diminish the causes of cholera, we should not neglect to put the system of the child in such a condition, as may enable it most effectually to resist their operation. As cholera is a disease of irritation, originating generally in a debilitated state of the alimentary canal, I believe this end may be most easily attained, by preserving the natural tone of the digestive organs. For this purpose, all flatulent and indigestible food should be carefully avoided. During the first year, the mother's milk is, in general, the most appropriate nutriment. When the stomach of the infant is very delicate, the diet of the mother should be strictly regulated; and, in all cases, it would be adviseable for her to avoid articles of a flatulent nature. While the child is still at the breast, if a predisposition to cholera be suspected, I would recommend the occasional use of nutritious animal juices. The sucking of small pieces of salt meat, as ham or dried beef for example, will sometimes be found productive of advantage. After weaning, animal food should always enter into the diet of the child. Many parents, fearing to render their children gross and unhealthy, restrict them altogether to vegetable aliment; and thus, by weakening the powers of digestion, prepare the way for that very result which they are most anxious to avoid.

With the same view of giving tone to the stomach, aromatics should be used habitually during the summer, in those cases, in which there is strong reason to apprehend the occurrence of cholera. While they produce a cordial impression on the stomach, and invigorate generally the digestive powers, they are liable to none of those objections which may be urged against the employment of the narcotic stimulants. Indeed, nature herself seems to have pointed them out as prophylactics against the diseases of hot weather. Our most powerful and valuable spices are the products of warm countries. Cinnamon, ginger, pepper, the clove, the nutmeg, are to be found only in tropical climates. In this arrangement, we see the hand of a beneficent Creator, who has provided, that, by the same high temperature, which renders the equatorial regions so fruitful in cholera, and other disorders of the bowels, the growth of those plants should be promoted, which are best calculated to invigorate the alimentary canal, and to fortify it against the inroads of disease. Facts are not wanting to prove the efficacy of spices in preventing intestinal complaints. We are informed by DEWAR, in his treatise on the Diarrhœa and Dysentery, by which the British army in Egypt was attacked, that among the Mamalukes of that country, it was a universal practice, when they apprehended the approach of these disorders, to make use of cinnamon or ginger, with the almost uniform effect of averting them: and where the same practice was followed by the British soldiers, equal advantages were experienced. In the French army, so highly was the prophylactic power of the aromatics estimated.

that every soldier was provided with a box of spices, which he was directed to use freely with his diet of fruit and melons.

When attending surgeon of the Alms-house hospital in this city, I had occasion frequently to prescribe in a syphilitic ward, which being situated directly under the roof, in a large garret, was liable, in the summer season, to become very much heated. As the patients were numerous, and the windows insufficient to admit of proper ventilation, the air became much contaminated; and the consequence was, that bowel complaints were very frequent and troublesome. I have often entered the ward on a summer's morning, and found almost every patient affected more or less with diarrhœa or cholera. It occurred to me, that the free use of some of the aromatics might be found serviceable in preventing the occurrence of these complaints. I accordingly directed, that every individual in the ward should drink a portion of strong ginger tea daily. I also ordered, that salt meat should be used twice in the week. By the steady pursuit of this plan, a very considerable change for the better was effected.

The employment of aromatics as prophylactics is not less beneficial in children than in adults. I would not, however, advise, that they should be given indiscriminately to all children, during the summer. It is only to those cases, in which a predisposition to cholera infantum exists, that I consider them peculiarly applicable; and here I believe they are capable of producing much good.

Before dismissing the subject of the paper, I will simply remark, in addition to what has been already said, that the occasional use of the cold bath, by the vigour it imparts to the system generally, and through it to the digestive organs, will often be found an excellent preservative against the summer complaint of children.

In this short account of the preventive treatment of cholera infantum, I have been less anxious to give a dissertation, embracing all that might be said on the subject, than to communicate those particular measures, which, according to my own experience, I have found most effectual. I will conclude the paper by the relation of a case, in which a strong predisposition to the disease was successfully counteracted. It will be proper, however, to premise, that the treatment of this case is by no means held out as an example to be generally followed with every infant, which may possibly become the subject of cholera. It is applicable in all its details only to those, in which, as in the present instance, there is every reason to apprehend, that the only alternative is between almost certain death, and the most careful prophylactic treatment.

Case.—A gentleman of this city, whose wife had arrived at a period of life, when she could not expect to be the mother of many more children, consulted me respecting an infant daughter, their only surviving child. I was informed, that they had already lost eight children, all of whom, with one exception, had died of cholera. It may readily be imagined, that every feeling of parental anxiety was awakened for their babe; and that no degree of attention on their part was considered too great, which might contribute to its preservation. It was placed under my care, not to be cured, but that I might, if possible, devise some plan of management, which would avert the disease they had so much reason to apprehend. I felt the responsibility of the trust, and endeavoured to fulfil it to the best of my ability. Every opportunity which I could desire was afforded me; for the infant, from its birth, was submitted to my direction; and both the disposition and ability existed, on the part of the parents, to carry implicitly into effect every measure which I might recommend.

As the mother was unable to furnish sufficient nourishment, the first step was to provide a healthy wet-nurse, who might be willing to submit to the necessary regulations in respect to diet.

I believed the children of these parents to possess a constitutional weakness in the alimentary canal; and, on inquiry, I was told, that they had been kept upon a vapid diet, under the impression that it would contribute to their health. In the present case, therefore, the principal object was to communicate strength to the stomach and bowels. With this view, the child was accustomed, from an early period of infancy, to a generous diet. When very young, portions of ginger tea were given to it daily; and as soon as it was old enough to suck the juice of meat, it was encouraged to do so. The nurse, during the warm season, was kept upon a nutritious diet, consisting principally of animal food, with the occasional use of ginger tea; and every description of recent fruit and fresh vegetable food was forbidden. Under this management, the first summer was passed without any symptom of the disease; but I looked forward to the second with no little anxiety, when the child would have to struggle with the irritation arising from dentition.

The same plan was continued during the second summer, and still more rigidly enforced. The child was now old enough to take animal food freely in addition to the breast. It was allowed as much salt fish, ham, beef-steak, essence of beef, &c. as it desired; ginger tea was given daily; a little sound old port wine was occasionally directed; and both the child and the nurse were restricted from every species of flatulent and indigestible aliment. So anxious, indeed, were the parents, and so careful to carry my directions into full effect, that they allowed no forbidden article of food to enter the house, and denied themselves their wonted comforts, lest possibly their child might be injured.

The gums were carefully attended to, and lanced whenever the operation appeared to be requisite. All those measures, which I have before mentioned as serviceable in obviating the effects of great heat, so far as they were applicable to the case, were adopted. The second summer was spent wholly in the country.

Very little medicine was required, and none was administered, except of the mildest description. Frequently, when summoned to visit the babe, I have found the mother trembling with fear, and anxious that something might be done; and often, under such circumstances, have I begged it off from a dose of physic, having determined to avoid a resort to every thing of the kind, unless real necessity should demand it.

By a strict adherence to the plan above detailed, the period of dentition was passed in safety; and it is with heartfelt pleasure I can say, that no symptom of cholera afterwards made its appearance.

ARTICLE VI.—*Case of Neuralgia cured by Acupuncturation.* Communicated by J. HUNTER EWING, M. D.

THE attention of the medical public having been of late much excited on the subject of acupuncturation, I am induced to communicate the following case.

For eighteen months, Miss ——— had been afflicted, at intervals, with a severely painful affection of the nerves of the right cheek, immediately below the orbit of the eye, and extending to the angle of the lower jaw. On the 14th of January 1826, she was attacked more violently than usual, and the remedies, which had previously afforded some relief, now failed. Stimulating cataplasms, warm embrocations, laudanum, internally and externally, heat applied externally to the cheek by means of very hot flannels, produced not the slightest mitigation of the pain; and she continued to suffer excessively until the afternoon of the 15th; when acupuncturation being proposed, she consented to the operation with this remark,—"any thing to relieve me from this agony."

The needles were immediately procured, and three inserted about an inch from each other. Two in a line parallel with the inferior edge of the orbit of the eye, and half an inch below it; and a third below, and equidistant from the others. The first two were introduced to the depth of three-fourths of an inch; the last, a full inch. They were inserted very gradually and with a rotary motion.

The second needle was scarcely introduced, before the patient exclaimed, "the pain has entirely left me." When the third was introduced, she experienced a stiffness in the muscles of the cheek, and a creeping sensation, as if a spider's web had been drawn across the face; but no painful sensation whatever.

Such was the exhausted state of her system from the excessive pain she had suffered, that when thus relieved, she requested a pillow to rest her head on, and fell into a gentle slumber.

About two hours after the insertion of the needles, I again visited my patient, and found her still perfectly free from pain, and seated at a table reading. She thanked me for the relief I had been the means of affording her, and requested me not to withdraw the needles, lest the pain might return. Upon being apprised of the risk that might attend their being allowed to remain, she observed, that she would rather have a servant to watch her whilst she slept. The propriety of their removal being further urged, she at last consented. There was no return of pain.

The next morning, the patient remarked, that the stiffness of the cheek, and a numbness of the whole right side, continued through the night; and though she did not sleep very soundly, she was free from pain and rested well.

By the third day, the stiffness and numbness had passed away, and there was no return of pain. Several weeks have now passed, and she has had no relapse; although often since exposed to causes, which, heretofore, had always excited violent attacks. Previous to the operation, she seldom passed as many days without severe suffering.

Although I have performed this operation many times, and been present when others have performed it, I have never seen a case, in which its efficacy was so decided, or in which the relief afforded was more unquestionably attributable to the action of the needles.

ANALYTICAL REVIEWS.

ARTICLE VII.—*Researches into the Nature and Treatment of Dropsy in the Brain, Chest, Abdomen, Ovarium, and Skin; in which a more correct and consistent Pathology of these Diseases is attempted to be established, and a new and more successful method of treating them, recommended and explained.* By JOSEPH AYRE, M. D., &c. London, 1825.

WE have read the present work with the liveliest pleasure, and we dare hope with considerable benefit, and hasten to lay a review of its contents before our readers. Dr. AYRE is already advantageously known in this country, where his Essay on Marasmus has had an extensive circulation; but we are disposed to think, that, however he might be esteemed for the talent he displayed in his former composition, he is entitled to much more credit for his able researches into the nature and treatment of dropsy. We confess that we enter upon our editorial duties, on the present occasion, with the two-fold intention of offering to our readers what we regard, on the whole, as a very correct view of the pathology of dropsy, and of showing to some of our medical friends, who shudder at the mere mention of what they denominate *French theories*, that the English physicians, or at least some of the most intelligent among them, so far from considering these theories as dangerous and unphilosophical, are beginning to entertain similar views with their Gallic brethren, in respect to the inflammatory nature of many diseases, too long regarded as resulting from a state of debility, and classed by nosologists among the Cachexiæ.

By most writers upon the subject, dropsy has too long been considered as a *disease*;—constituted into a separate class, and divided into many species. Dr. AYRE entertains, however, a very different, and, we believe, a much more correct view of the pathology of this complaint; regarding it as only one in a series of effects of a disease, and not always the last of that series. He remarks, that the true disease is to be sought for in that particular condition of the solids by which the effusion is produced; and that to appreciate justly the nature and treatment of dropsy, it is necessary to understand the nature of that condition, which constitutes the disease, and of which the serous and watery effusion is merely the result.

Of all the hypotheses that have been advanced to account for the nature of the morbid state, which gives rise to general and local dropsy, there are only three which our author regards as entitled to our notice. According to these, all dropsical accumulations arise either, 1st, From a want of tone or energy in the absorbent vessels, giving rise to a deficient absorption. 2nd, From an increased exhalation of the natural fluid, through a similar want of tone in the exhalents; and 3d, From a mechanical obstruction to the free return of blood by the veins, produced by tumours of various kinds, &c., by which a greater portion of it is forced into the exhalents, and a greater effusion of their proper fluids thereby occasioned. With these hypotheses, however, Dr. Ayre is not satisfied, and he endeavours, in the following manner, to show their insufficiency.

"1st. The opinion of a want of tone in the absorbents, as a cause of dropsy, is contradicted by the fact, that in those cases, in which it is assumed to prevail, it is found, that the adipose matter, or fat of the body, is removed by the absorbents; or, in other words, that emaciation takes place to as great an extent, and as rapidly in this, as in other diseases; and emaciation can only be effected by means of absorption. Besides, in these cases of dropsy, mercury, when rubbed upon the surface, or received internally, is absorbed as readily, and affects the system as early as under other states of the body. There is also no accumulation of the fluids in the joints, or in the *bursæ mucosæ* in these cases, which, nevertheless would happen, if there was a general debility of the absorbent system; and *ecchymoses* or livid spots, though easily induced in anasarcous limbs, are likewise easily removed from them by the absorbents.

"2nd. The opinion of a want of tone or energy in the exhalants involves in it one of the following conditions; namely, either, 1st, that the fluid of dropsy may escape mechanically from them, and that the fluid thus *mechanically* separated may be identified in its sensible and chemical qualities with another fluid which is confessedly secreted; or 2nd, that if the fluid of dropsy be secreted, then that an *increase* in the quantity of a secretion may continue an indefinite period, under a *decrease* in the energy of its secreting vessels; conclusions to which experience and analogy are alike opposed."

In answer to the third hypothesis, Dr. A. remarks, that such an obstruction as contemplated, has never been shown to exist.

> "In the case of the liver, which is commonly considered, when in a scirrhous or enlarged state, to be the seat of these mechanical obstructions, and thus, to be the cause of abdominal dropsy, we have no satisfactory instance yet shown to us, of any such precise condition of that organ. There are, indeed, numerous instances of abdominal dropsies, in those labouring under a scirrhous or enlarged state of the liver; but there are also, numerous examples of such states of the liver, as well as of the spleen and other organs, without any such effusion; and in many cases, when such effusion has taken place, it has been carried off by the natural passages or by tapping, without any return of the dropsy; and yet, without any visible change in the structural condition of the liver."

Dr. A. further remarks, that if the cause were mechanical and existed in the liver, the effect should be constant; which, however, is not the case. Besides, were this mechanical cause necessary, how could we account for the appearance of abdominal dropsy, where there is no disease of the liver, or in other cavities, where no mechanical cause is asserted to be present, and where the remedies by which the cure is effected, have no relation to such causes? Again, if the discharge depended upon a mechanical cause, the water should in every case be of a uniform fluidity, and the progress of its accumulation likewise uniform; so that the operation of tapping should have no tendency to induce a more rapid refilling of the cavity. Yet, the contrary of all this is a subject of daily observation. In addition to this, Dr. A. calls the attention to the fact, that in experiments, in which obstruction has been artificially made, by tying the vena cava, for example, the experimenter has committed an error, in reasoning from the lower animal to man—assuming, that as ascites had arisen in dogs, it would in like manner have occurred in human subjects.

> "But there was an effect, here overlooked, which was to be expected to take place in the abdomen of the dog, from the injury done to the surrounding parts by the operation itself, and which would be quite independent of any effect arising out of the experiment. In the human subject, the effect would be the highest form of inflammation, by which coagulable lymph or pus would be poured upon the surface of the peritoneum. There would, therefore, be inflammation excited in the abdomen of the dog; but as the lower animals are less easily acted on than man, the inflammation would in this case be in a lower degree. But every degree of inflammation has its particular product. The highest occasions a discharge of pus, whilst the lowest, when seated in a serous membrane, is a

larger portion of its proper serous fluid. This, therefore, might be the product of the inflammation, which was produced incidentally by the experiment in the abdomen of the dog; and it would be just as reasonable to regard the coagulable lymph in the human subject, which would result from such an experiment, as an effect of the mechanical obstruction, as to consider the fluid effusion in the dog to be so."

In respect to those instances of diseases of the liver, connected with ascites, in which, in addition to its other morbid states, a partial occlusion of the vena portæ, by the effusion of coagulable lymph into it, is said to have existed, our author remarks, that they are very few in number, occurring, perhaps, in one out of several hundred cases of ascites with hepatic disease; and that we are justified, from analogy, to assume, that any obstruction given to the circulation by diseased vessels, would be quickly relieved by the enlargement of the anastomosing branches, and that no effusion of water into the abdomen would result from it. After referring to some cases, related by the late Mr. Wilson, in which the vena cava was completely obliterated, and no effusion took place; and some cases of morbid condition of the heart of an analogous kind, by which the course of the circulation became greatly obstructed, and yet, without being followed by effusion; our author concludes, that from these facts and others, to be presently noticed, it appears evident,

" That the dropsical effusion, in whatever part it may be seated, does not arise from any want of tone in the exhalant or absorbent system, or from a mechanical obstruction in the liver or other viscus; but, that it proceeds from a morbid action in the cellular or serous tissues, and that this action, as we shall now proceed to show, is allied in its nature to inflammation."

In support of this opinion, Dr. Ayre remarks, that all the phenomena belonging to cases of watery effusion, met with under one or other of the forms of inflammation, are common to those of dropsy. Thus the fluid, discharged under the cuticle in erysipelas or in inflammation induced by heat or a blister, or in cases of pemphigus, is a secretion, and resembles in all respects the fluid found in dropsy. In some cases of acknowledged inflammation, the fluid effused is found to vary greatly in its degree of tenuity, so as to be sometimes of quite a viscid nature. The same circumstance is met with in dropsy; the fluid of which varies sometimes in different forms of the disease, and at different periods in the same patient. With regard to the absence of pain, in ordinary cases of local or general dropsy, which, in the minds of many physicians, might seem to militate against this view of the subject,—since pain accompanies the inflammation of a blister, Dr. A. very justly says, that the difference is referrible to a different degree of sensibility of the parts affected; that, moreover, in pemphigus there is no pain, and that chronic inflammation of the serous membranes is little painful.

That the morbid action producing the effusion is only a modification of inflammation, our author thinks may be further shown by the fact that it obeys the same laws—being translated occasionally, like it, from one part of the body to another. On this subject, Dr. AYRE makes the very pertinent remark, that in these cases, the fluid alone has been thought to be translated; but that the metastasis, is without doubt, exclusively of the action which produces the serous discharge. Analogous also to what occurs in inflammation, especially of the erysipelatous kind, the action occasioning the effusion, as seen in anasarca, commences at a given point, and gradually extends from thence in a continuous course. It ought also to be noticed, that the results of common inflammation vary according to the intensity of the cause; the lowest degree of it, occasioning an increase in the quantity of the proper fluids of the part,—a higher degree, yielding for its product coagulable lymph, and a still higher one producing pus. All these several products of common inflammation, are more or less remedial of their cause; or in other words, are the immediate means of the cessation or abatement of the inflammation which produces them. This same power is likewise a property, though in a much less degree, of the hydropic effusion, when the inflammation which produces it, is idiopathic; or in other words, not created by a visceral or other disease, or some particular excitement of the general system, as is seen in cases of anasarca.

"And here," continues our author, "it may be proper to remark upon a common error, committed by those, who, mistaking the nature of the action which produces the serous effusion, look in the *post mortem* examination, for some of the common signs of an inflammation having existed; and who conclude, upon not finding such, that the water was derived from some mechanical or other cause foreign to the true one. But in the higher forms of abdominal inflammation, the products are pus or lymph, and these are found upon the surface of the peritoneum, with sometimes a thickening and discoloration or ulceration of its substance; whilst in the lowest form of that increased action to which the serous membranes are subject, the only product is the serous fluid, and there can be, therefore, no visible alteration produced by it in the structure of the serous tissue."

"By the hydropic or serous inflammation, obeying the same laws which govern the other degrees of common inflammation, it follows, that upon a higher excitement being superinduced upon it, the serous effusion should cease. This, therefore, is found to happen in every case, where such higher excitement is brought on. This increased inflammation is sometimes occasioned by design or accident, and at other times, it occurs in the natural and progressive course of some disease, formed within the cavity, which is the seat of the dropsical effusion."

This is exemplified in the effects of the operation for the radical cure of hydrocele; or in the operation of tapping in some cases of ovarian dropsy; or even in some instances, of ascites from chronic inflammation of the liver, spleen, mesentery, &c. In all these cases, the serous membrane, which directly or indirectly was affected to a sufficient degree to occasion a serous effusion, takes on, from the extension of a visceral disease, or from some other cause, a higher degree of inflammation—lymph is thrown out, and the cavity becomes obliterated.

"Now from these, and similar examples, which have fallen under my observations, I think it may be assumed, that ascites, when proceeding from some visceral disease, (and the principle applies to hydropic effusions from the pressure of disease in other cavities,) does so by the gradual extension of the chronic inflammation of the internal cellular or serous tissues of the diseased organ, to its outer external coverings; and that, commencing here as from a point, the serous or hydropic inflammation is progressively propagated through the whole of the serous membrane of the cavity. By the disease within the cellular tissue of the diseased viscus increasing, a corresponding increase, in these cases, will ensue of the disease on the surface of the membrane investing it; until at length a susceptibility to take on a higher action is induced, which only requires any slight occasional cause to establish. Under this condition of an increased excitement in the peritoneal or other serous membrane, coagulable lymph is discharged into its cellular tissue, and a thickening of it takes place; until at length the operation of paracentesis, which in the early stage of the disease was attended with only inconsiderable inconvenience, becomes an adequate cause of a still higher inflammation, which terminates perhaps in suppuration; and, in the *post mortem* examination the serous fluid is found so mixed with coagulable lymph, and purulent matter, as to give a whey or milk-like appearance to the mass. The quantity of serous fluid, in these cases, is generally small, when compared with what was accumulated in the intervals of former tappings; for the vascular excitement which occasions the discharge of coagulable lymph, is destructive of that which pours out the serous fluid."

Dr. A. remarks, that, besides the particular facts deduced from observations on dropsy as a local disease, and which prove its relation to diseases of local excitement, there is a further support to be given to these views by various proofs that are afforded from observations upon the urine, of serous inflammation producing local dropsy, being frequently connected with one of a general kind. "So that the inflammatory state of the system becomes sometimes a cause of the effusion into a cavity, and at other times an effect of this state." After giving full credit to Drs. WELLS and BLACKALL for their researches into the state of the urine in dropsy, our author remarks, that there are certain conclusions deducible, which appear not to have been contemplated by those gentlemen, but which are strictly accordant with the pathological views he has endeavoured to establish in the present work.

> "According to these facts, it appears, that when the disease of dropsy is under a sub-acute form, and of the anasarcous kind, it is usually idiopathic, and often originating from cold; and in this state, as well as in the symptomatic form, though in a less degree, the urine is found to contain a portion of serum. It is nearly peculiar to this disease, and denotes, according to the quantity of it contained in the urine, the amount of that excitement in the cellular tissue, and of the general vascular system, which may be termed serous inflammation: for it is met with most considerably in those forms of the disease, in which these particular states of the body are most apparent."

Serum is therefore found in greater abundance, when anasarca precedes the local dropsy, which, in Dr. A.'s opinion, denotes the operation of a general cause. This is found to be the case especially in anasarca after scarlet fever. In cases of anasarca, the skin, kidneys, and bowels are very defective in their operation. Serum is also found, though in a smaller quantity, in those cases in which the anasarca has followed the local dropsy; for the disease of the viscus, which is the cause of the inflammation in the serous membrane of the cavity, may produce an adequate degree of the vascular excitement which gives rise to a discharge in the cellular tissue. Our author sums up his observations on this subject, by remarking, that there appear to be four distinct conditions of the system by which the occurrence of serum in the urine is regulated.

"1. It is in the greatest quantity, where along with a copious and continued effusion, there is a nearly corresponding quickness in the absorption of the serous fluid, and which will occur most commonly when the general excitement precedes, and is a cause of the local one.

"2. It is consequently, *cæteris paribus*, in a less quantity where the general hydropic excitement of the system succeeds, and is dependent on the local one.

"3. It is absent, or found only in a minute proportion, in all those cases where the local increased excitement in the serous membrane is only partially extended to the rest of the system, and where the absorption from the part is inconsiderable; as particularly happens in the encysted kinds, or,

"4. Where the effusion of the serous fluid has proved remedial of the inflammation producing it; in which case the disease, as it respects the presence of water in a part, may visibly resemble another example, and yet be essentially different from it, by the serous inflammation, which produced it in both, having ceased, on its occurrence, in one of them."

Dr. A. discovers a further evidence of the relation which dropsy bears to diseases of local excitement, in the effects it produces on the general system. Thus, during the continued effusion of serum in anasarca, there is sometimes a large quantity absorbed and carried out of the body; by which a regular draught is made upon the nutrient principles of the blood, which must naturally create effects like those arising from the continued discharge of pus from a suppurating surface. In both cases the local disease, when extensive and of long duration, will necessarily occasion an exhaustion of the vital powers, by which that condition of the system termed cachexy will be induced.

"The exhausted or cachectical state, therefore, of the system, which has been so variously accounted for, and so frequently assigned as a principal cause of both local and general dropsy, is a direct consequence of the agency of some power diminishing the vital strength at its source; and in the case of a chronic and long continued serous inflammation, it will proceed from the daily abduction from the circulation of a portion of its vital fluid: and whether it be pus or serum that is drawn from the body; or whether it be from any permanent failure in the supplies of nutriment to it, the effect will be the same, as if a certain quantity of blood was daily abstracted from the system."

Dr. A. continues to remark that, under these circumstances, a suppurating surface will readily become gangrenous, from any cause temporarily exciting it, and that, in like manner, a higher inflammation may sometimes supervene upon an œdematous limb, as in the former case, and terminate in gangrene.

> "Hence, therefore, the tendency of dropsical parts to fall into gangrene, and which has been urged, as an argument, in proof of debility being the cause of the serous effusion, is only what is common to other forms of local inflammation, under a similar condition of the body."

From the view he has adopted of the nature of dropsy, Dr. Ayre thinks that the excitement of the parts, giving rise to the effusion, may be either 1st. Sub-acute or chronic. 2nd. Symptomatic or idiopathic. In other words, that it may arise from a local disease, or from the common causes of inflammation; and that these causes may be either general or particular. 3d. That the serous inflammation may be either local or general, giving rise to a general or local effusion.

After offering so copious an analysis of Dr. Ayre's sentiments respecting the pathology of dropsy, it is unnecessary to enlarge very fully on the application of his theory to the particular forms of that disease. We shall, however, offer a rapid review of some of his opinions, and next detail the method of treatment he proposes for the cure of these dangerous maladies. We commence with hydrocephalus, which he remarks has been divided into an acute and chronic form. This division, our author thinks, is correct in a certain sense; for the disease varies much in duration,—running its course, sometimes in a few days; and at other times continuing several weeks. Yet, he continues, the terms acute and chronic must be understood as restricted to that particular form of inflammation producing a serous effusion, and not as denoting the highest and lowest degrees of common inflammation. It is from the want of this distinction that much confusion has arisen in our speculations relative to the pathology of hydrocephalus.

Dr. Ayre calls our attention to the fact, that the forms of hydrocephalus denominated by Dr. Golis hyperacute and acute, do not differ from the sub-acute phrenitis of nosologists, in which pus and coagulable lymph are the proper products, with sometimes a serous effusion into the ventricles as an accidental effect; all of which forms of inflammation, the serous membranes of the brain, and of other cavities are liable to take on; and adds:

> "Now, the true hydrocephalus internus stands distinguished from these, in the nature of the inflammation of which it consists, in the same way, precisely, that the serous inflammation of the pleura, producing simple

> hydrothorax, is distinct from that higher degree of vascular excitement, which occasions an effusion of pus or lymph. Relatively to these, therefore, the disease is in a chronic form; and consists, we may repeat, of that lowest degree of inflammation to which serous membranes are subject, and the effect of which is to increase the natural secretion of the part, so as to cause, in regard to the brain, an accumulation of that fluid in its cavities."

Dropsy of the brain is usually divided into three stages. In the first, continues our author, vascular excitement exists, as denoted by pain in the head increasing in acuteness with the increase of the disease; and in infants by a restless movement of the head upon the pillow, moaning, occasional screamings, sickness, retching, impatience of light and noise, contractions of the pupils, delirious terrors, &c. The second stage is indicated by signs of pressure on the brain by effused fluid, and by an absence of pain, excepting upon raising or moving the head, convulsions, permanent dilatation of the pupils, squinting, blindness, slow intermitting pulse, hemiplegia, and a peculiar placid expression of the countenance, &c. The third stage is made up of some of these symptoms, together with other ulterior ones which follow the vascular reaction. On this subject Dr. A. offers the following remarks:

> "With respect, however, to the division thus formed of this disease, it is, I think, somewhat questionable, whether it be pathologically correct; for strictly speaking, the true disease is comprised between the incipient beginnings of the inflammation, and its termination by the effusion; since the symptoms which follow, and compose what are called the second and third stages, are little more than the consequences of the disease, and arise from the mechanical pressure of the water upon the brain. The progress, therefore, of what may be strictly considered the disease, should perhaps be considered as terminating with the occurrence of the effusion, which is often remedial of the excitement causing it; and the whole disorder, to be thus made up of two distinct states, the first consisting of symptoms, which commencing with the excitement, terminate with the serous discharge; whilst the second is composed of those of a secondary kind, and which are wholly dependent for their origin and continuance, on a mechanical pressure from the effused fluid."

Hydrocephalus may occur, either as an idiopathic or symptomatic affection. As the first, it may arise, where there exists a predisposition in the brain, from various injuries inflicted on the head by slight blows;—from all the general causes of inflammation—from the sudden drying up of long established discharges—the sudden repulsion of cutaneous eruptions, or the imperfect evolution of that or other sanative actions of the system, at the close of some febrile diseases, usually denominated defect of crisis. When, on the other hand, the disease is symptomatic, it may arise from a particular cause seated within the head, or in some distant part of the body. The former variety is not common among children, and when it does occur, it is the result of some chronic disease, as a tumour or a thickened state of the arachnoid or other membranes of the brain, resulting from a former inflammation. "Sometimes, adult patients wholly recover from chronic or subacute inflammation, which induced the structural disease, and this last becomes, at some future period, the occasional cause of the hydropic one." At other times, the chronic inflammation continues, and finally extends to the serous membrane, giving rise to the effusion.

"The most usual cause of the disease, however, particularly in children, is an irritation which is sympathetically communicated to the brain, from a disturbance in the chylopoietic organs; and particularly from a functional disorder of the liver. The cerebral disorder, to which a derangement in the digestive functions thus gives rise, is only one of those numerous effects which arise out of sympathies, subsisting between these organs and different parts of the system. In many cases, the same sympathetic irritation is successively and variously directed to different parts of the system. It will thus leave one organ or part, and suddenly move to another: and through the operation of causes, which are not always obvious, but which have a relation to some particular predisposition, inherent or acquired. In this way, an irritation may occasion an eruption upon the skin, and thence be translated to the bronchial lining, producing a cough; and next perhaps, to the serous tissue of the brain, exciting there a turgescent or congestive state of the cerebral vessels, by which symptoms are produced, through the pressure of the congestive vessels, that simulate those of hydrocephalus; or the true disease is brought on by an arterial re-action, ensuing upon the congestion, which is resolved by a serous effusion."

Dr. Golis, from observing the marked connexion "between the turgescent state of the brain from chylopoietic disturbance, and its serous inflammation, has concluded, that it essentially pertains to it;" consequently, that "whenever it occurs, it is a part of it;" that it should be considered as forming the first stage of the disease, and that in all instances, it precedes the excitement. He has, for the same reason, constituted all the symptoms of the chylopoietic disease into the first stage of hydrocephalus. Dr. Ayre shows, however, that this state of turgescence, is not essential to the disease, and is only a sympathetic effect, which in the majority of instances, requires no treatment, (at least a very subordinate one.) other than that of the primary affection. He concludes his remarks on hydrocephalus, with the following words.

> "The cerebral turgescence and disturbance, therefore, in whatever degree they may exist, are only, when sympathetically produced, to be considered as morbid causes, whose presence, where the predisposition prevails, may lead to a serous inflammation of the tissues of the brain, but which do not form, in any sense, parts of the disease itself; since, under every degree of them, they are so frequently remediable, by means which are alone available, for the removal of their distant and sympathetic cause."

Of *Hydrothorax*, Dr. AYRE very justly remarks, that, as its name imports and as defined by Nosologists, it consists of symptoms, which strictly speaking, pertain only remotely to the true disease—arising, as they do, from a certain disturbance given to the lungs, by the pressure of water upon them. They are only the symptoms, therefore, of the effusion, and as the excitement sometimes terminates with the occurrence of the serous discharge, its existence, in many cases, is discoverable only by its effects—there existing no signs, which clearly point out the presence of that state, previous to the appearance of the effusion; and what are usually called, by writers on the subject, premonitory symptoms, being only those of an inferior degree of the effusion which has already commenced.

Like hydrocephalus, hydrothorax may be idiopathic or symptomatic; and proceed from a local or general cause—the nature of the inflammation being the same in both cases. It may likewise be divided into an acute and chronic form. When the disease is symptomatic, and arises from a local cause, it is generally chronic. When it arises secondarily from a disease of the lungs, our author thinks, that

> "The mode by which this state is induced in the serous membranes, is by the chronic inflammation that exists in the diseased organ extending to them: and not by the same form of inflammation being set up in them, by a certain sympathy or consent of parts, which, from a loose analogy, has been thought to subsist between similar structures."

All diseases of the thoracic organs, are not equally prone to occasion effusion; some of these also, are only dangerous to life, in proportion to their disposition in occasioning such an effusion;

whilst in other cases, if it occurs at all, the effusion is only the sequel of a disease essentially fatal.

"To distinguish between these two conditions, is a desideratum in pathology. Modern writers on pathological anatomy have prosecuted with considerable zeal and ability, their researches into the nature of the diseases of the organs within the chest, but they have done but little towards elucidating the true relation, which subsists between the diseases of the several viscera, and the serous effusions which take place into their cavities; for, by limiting their views to the disease which the *post mortem* examination exhibited, they have overlooked those intermediate actions or states of excitement which connect the organic disease with such effusions."

Whenever the excitement, producing hydrothorax, is idiopathic and independent of an organic disease of the lungs, heart, &c. its remote causes may be either of a general or local kind; and are the same which produce, when applied in a higher degree, or under different states of the system, the other forms of inflammation. The effusion may take place in those cases in which, the individual being predisposed, the inflammation, owing to some peculiarity in the cause, does not reach beyond its lowest grade; or in those in which the inflammation being high, and treated too late, or by insufficient means, a chronic form succeeds to the acute one, which may produce a watery effusion; or some structural disease remains and eventually becomes a cause of the effusion. The occurrence of this effect, in those latter cases, is sometimes attributed to a debility, resulting from the large depletion required in consequence of the severity of the previous inflammation.

"That such opinions, however, are founded in error, may be shown from this, that the effusion, thus imputed to debility, does not occur sometimes, until some weeks or months after the period when the bleeding was employed; and although the debility is confessedly of a general kind, yet the effusion is local, and is precisely in the very cavity where the disease existed, which required the unjustly condemned evacuations. The truth of the matter is, that in such cases, either the depletory means have been employed in an insufficient degree, or too late." "The imperfect recovery of such patients from their first attack, and which is attributed to the depletion, arises from the disease which is left by it, and to the injudicious means, perhaps, that are employed by the too anxious attendants, with the view of restoring the strength."

Among the ordinary predisposing and exciting causes of the inflammation which produces hydrothorax, Dr. A. mentions a certain congestive or plethoric state of the circulation, which is brought on in some persons of particular habits, by indulging in the pleasures of the table, and taking little exercise. These cases are analogous to those occurring in the brain, and giving rise, by rupture, to a sanguineous apoplexy, or, by arterial reaction, inducing an effusion of serum.

Dr. A. next proceeds to the subject of *ascites*, the symptoms of which he remarks are at first so obscure, that the disease is sometimes with difficulty detected. The remote causes of ascites may be either symptomatic or idiopathic, and either local or general. When symptomatic, it may be seated in some diseased viscus, as the liver, spleen, or in the mesenteric glands, &c.

> "To produce, however, a dropsical effusion into the abdomen from this cause, it is necessary that the disease of this viscus should be making progress; for, in its indolent state, or, in other words, if inflammation be not present in it, it is incapable from its mere bulk, as is commonly but erroneously supposed, of producing this effect." "Nor does the serous discharge always take place into the abdomen, in every case where these organs are morbidly affected, but only where their peritoneal covering participates in the disease; for the chronic inflammation in those cases, where it occasions ascites, does so by extending from the cellular tissue of the internal structure of the organ, to the serous tissue investing it." "When ascites is an idiopathic affection, it may proceed from all the common causes of inflammation. The most frequent cause is cold, and which may act either locally or generally. When in the latter mode, the ascites is usually combined with anasarca, and the disorder generally comes on suddenly, and has a rapid progress. The vascular system is excited, and there is more than usual thirst: the blood when drawn exhibits the buffy appearance; and the urine, when subjected to heat, is found to coagulate strongly, from the large quantity of serum contained in it. In some of the severer cases, the effusion into the abdomen takes place very suddenly, and yet, by a copious bleeding the disease may be at once arrested, and the water be afterwards absorbed."

Unlike what occurs in hydrothorax and hydrocephalus, the effusion in the present form of dropsy is of inconsiderable importance, compared to the visceral disease which is its remote cause. When, however, the accumulation becomes very considerable, the pressure of the fluid may affect the organs, and more particularly the peritoneal lining, which from the irritation induced in it, may take on a higher grade of inflammation, terminating in effusion of coagulable lymph or pus, and in death. The necessity which arises of tapping, where the effusion is very considerable, proves sometimes a farther cause, perhaps, of aggravating the disease of the affected viscus, and either of renewing or extending the hydropic excitement, or of converting it into a higher or more destructive form of inflammation.

By most writers on dropsy, anasarca has been maintained to originate, in all instances, in debility, and to be curable only by a tonic and invigorating plan. It is true that some writers, especially among the ancients, (for we can hardly class PORTAL among the moderns,) have spoken of the disease as arising occasionally from a plethoric state of the circulation, and enforced the necessity, under these circumstances, of venesection. This view of the pathology of anasarca, although leading in many instances to a successful practice, was, however, vague and often unsatisfactory. To the late Dr. RUSH, and to Dr. PARRY, much credit is certainly due for their labours on this subject; but so far as we are informed, it was not until within a few years, that the subject was cleared of part of the obscurity in which it was involved, and that the disease, at least the active sort, has been referred to an irritation of the cellular tissue. Following up this opinion, and generalizing still more than the French pathologists, our author asserts that anasarca invariably consists in an inflammation of the cellular membrane of the body, with a serous effusion as its result. The accumulation, he continues, may be either idiopathic or symptomatic, and either general or local; occurring only under two forms, the one being of greater intensity than the other. In general, the disease derives all its importance from the nature of the remote cause.

> "When it is idiopathic and proceeding from cold, it is usually unimportant, for though the progress of the swelling be rapid, and the appearance of the disease formidable, yet it readily subsides under proper treatment, as the effusion proves in these cases, either partially or fully corrective of its cause; and little more, under such circumstances, is required in its treatment, than to promote the absorption of the water. In some cases of general anasarca, however, the disease is more severe; for sometimes the action of the heart and arteries is increased, the urine becomes loaded with serum, and there is thirst and other indications of general vascular excitement, similar to the state which was noticed, as producing effusion into the brain, or the other cavities of the body."

In some cases, the serous effusion appears to be translated from one part to another. Our author very justly adds, however, that this translation is not of the serous fluid, but only of the serous inflammation giving rise to the effusion. It usually takes place from one portion of the cellular membrane to another; but sometimes from this membrane to the serous tissue of the brain, chest, or abdomen.

Œdema of the feet and ankles is often symptomatic of chylopoietic disturbance, and particularly in young women, in whom the menstrual function is obstructed. In these cases, as well as in the œdema following gout or rheumatism, the swelling usually commences with considerable pain and stiffness of the parts, and hardness of the swelling.

> "But the most common form of anasarca is that which is symptomatic of some visceral disease; and which, as it ordinarily appears, arises from a state of the system that answers to the hydropic diathesis of systematic authors."

This form of the disease begins in the lower extremities, and is rarely attended with strong signs of local excitement so obvious in anasarca of the idiopathic kind. Its occurrence has been referred to various causes. When combined with ascites, it is supposed to arise from pressure of the iliac veins by the fluid accumulated in the abdomen,—an opinion which our author combats by repeating, in great measure, the arguments we have already noticed.

> "But here let me observe, that the denial of ascites producing an anasarcous state of the legs, from the water compressing the iliac veins, must not be understood as implying, that a mechanical compression of a vein will not in other cases produce an effect of this kind. A pressure made on the brachial vein and its branches by scirrhous glands in the axilla, is a common cause of this state. The remote cause is here, indeed, of a mechanical kind, but not so the proximate cause of the effusion. By the resistance given, in this case, to the blood's return by the principal veins of the limb, a reaction is occasioned in the extremities of the arteries leading into the corresponding extreme branches of the veins, and which reaction is in this, as in a multitude of other occasions of congestive fulness in these vessels, a sanative effort of nature to overcome the primary obstruction."

The disease has often been referred, when occurring under these circumstances, to a local and general debility; and this opinion is thought to be supported by the facts that the swelling is increased by a depending position of the limb, and diminished by a horizontal one—by the occurrence of an inflammatory state of the parts being incompatible with such a degree of debility, and lastly by the absence of preternatural heat on the surface of an œdematous part. To these pretended arguments, Dr. A. opposes, that the effusion cannot be attributed purely to debility; because the effects are in no correspondence with the assigned cause.—the debility being, in some instances of chronic and acute disease, very considerable, and the effusion small, and vice versa;—because anasarcous limbs will occur in the strongest individuals when the limbs have remained a long time in an erect posture,—because there is in certain fatal chronic diseases, a tendency in the lower limbs to take on an inflammatory action, often of an erysipelatous kind,—and because the fact of œdema increasing by an erect posture and diminishing in the horizontal one is readily explained by the greater congestion of the vessels induced in the limb by such a position, as occurs in the higher grades of inflammation.

"And with respect to the temperature of the surface of œdematous parts not being preternaturally raised, the objection, if of any force, must apply to all, for all have this peculiarity, and yet some cases of œdema confessedly arise from inflammation: differing not, in this respect, from several other morbid states, as those for instance, of chronic rheumatism, and which are indubitably, as indicated by the nature of their causes and remedies, of a truly inflammatory kind."

Dr. AYRE, therefore, regards all these cases as secondary to a serous inflammation seated in a cavity: and lastly as arising from some disturbance in the digestive functions, by which this and other distant irritations are produced through the operation of that law of the animal economy, denominated sympathy.

Having thus offered, in the preceding pages, an analysis of Dr. AYRE's views of the pathology of the principal forms of dropsy, we must be allowed, before proceeding to the treatment of that disease, to make a few remarks. It appears to us that Dr. A. has treated the subject in a very able manner, and contributed greatly to remove many objections, that could be adduced against the opinion of the inflammatory nature of some of the more obscure cases of dropsy. We cannot help thinking, however, that he is too exclusive in his theories, and that he has rejected too positively the idea of a passive dropsy; in other words, of dropsy independent of inflammation. Some cases of the disease which follow extensive losses of blood, (profuse uterine hemorrhages, for example) and which are cured by tonics and an invigorating diet, without the aid of diuretics, cannot always, though they may sometimes, be accounted for by admitting the existence of inflammation. Such instances have fallen under our own observations, and could not be explained by supposing that the effusion had relieved the inflammation; since there had not existed, at least as far as we could ascertain, any local inflammation. In one case it followed abortion, attended with profuse hemorrhage, and produced, not by disease, but by an accident.

In the second and fifth volumes of the *Archives Générales de Médecine*, Dr. BOUILLAUD has related many cases of partial and general dropsy, which undoubtedly originated in obstruction to the venous circulation, from adhesion of the parietes of the principal veins. It is true that Dr. A. is compelled to admit this among the causes of dropsy; but faithful to his theory, he supposes the supervention of an arterial reaction resulting in an effusion of serum. It does not appear to us, however, that this arterial reaction is admissible in all cases of the sort, and we prefer on the whole the explanation of the mechanism of the effusion, originally given, by DONALD MONRO, and lately by Drs. BOUILLAUD and BROUSSAIS, who refer it to an obstruction in the venous circulation and to a consequent deficient venous absorption. By admitting this explanation, it is readily perceived, that we admit a passive dropsy, and we think the view well exemplified by a case which occurred last summer. The individual had recently recovered from a violent attack of disease, and was left much debilitated. Induced by this circumstance to travel to the north, he had occasion to notice that when seated long in a stage with his feet depending and the veins compressed, œdema invariably came on, and that it as invariably went off the next day if he did not ride. This occurred so often as to lead us to think there could not always be an arterial reaction occasioning the effusion, and that this effect arose from the mere obstruction to the venous circulation.

In making these remarks we are not actuated by the desire of detracting from the merits of Dr. A.'s views of the pathology of dropsy; convinced as we are, that the great majority of cases of the disease, which are thought by many physicians to arise from debility, do not owe their origin to this condition of the system, but to an increased excitement of the membranes or cellular tissue. Were it otherwise, how could we account for the fact, that dropsy is generally *local*, whilst the *debility*, to which it is in most instances referred, is general?

But whilst maintaining the correctness of many of Dr. A.'s views, we are inclined to the opinion, that he may do some injury to the doctrine he is advocating, by invariably making use of the word *inflammation*, to express that condition of the vessels, giving rise to an excessive secretion of serous fluid. We are ready to admit, and we dare hope, that few will refuse to do so, that *inflammation*, strictly speaking, will occasion such an effect; yet, it often happens, that effusion will occur in cases, where no inflammation can be detected. In such instances, the vessels are evidently in a state of increased excitement; or in other words, in a state of irritation, but not of inflammation, which always implies congestion. This latter morbid condition, may supervene on the irritation, and occasion a suppression of the serous effusion, and the formation of coagulable lymph or pus. It is true, it may be said, that both these states (irritation and inflammation) being an increase of the life of the part, and requiring the same treatment, may be designated by the same name. Nevertheless, to prevent confusion, and the quibbling of some of the opponents of the theory of inflammation in dropsy, we are inclined to believe, that it is better to substitute the word irritation, whenever there is merely an increased secretion, and reserve the word inflammation, to designate those cases, in which there are decided marks of local excitement and congestion, attended or not with general fever.

Dr. AYRE, adopting the opinion of Dr. PARRY, regards some cases of local dropsy as an effect of a general hydropic diathesis, or of a general inflammatory action of the vascular system, occasioning a local excitement, ending in dropsy. This is a natural consequence of the views, entertained by many physicians in Europe and this country, that fever produces local inflammation. We must confess, however, that all Dr. A. has said on the subject, is not calculated to carry conviction to our minds. Thus, one of his reasons for regarding some cases, as arising from this general vascular excitement is, that they are produced by what he considers as a general cause,—as cold, for example. But cold produces local diseases, occasioning, and not preceded by, a febrile excitement; and if it can, and does occasion anasarca, who will pretend to assert, from its being a *general* cause, that this anasarca is a general disease? Does not cold occasion also ascites, which, in many cases, is regarded by every one as a local disease, sometimes terminating in anasarca? If so, why shall we regard anasarca, ending in ascites, as a general disease? The cases are analogous, and the action in both should not be explained differently. If the action of such a cause were really general, and extended to all parts of the body, then the effects should also be general, and the dropsy should be universal, which is very far from being always the case. 2nd. It is also said in support of this opinion, that where anasarca is idiopathic, it is attended with fever, but that this latter does not exist, when the disease follows ascites. This difference appears to us to be very readily explained by the fact, that the disease in the former case, is more acute, and that the heart sympathises more actively with the irritated cellular tissue, than in the second case, when the disease is milder, or more gradual in its progress.

3d. It is also maintained, that when anasarca is idiopathic, there exists a large quantity of serum in the urine; and this is brought forward in order to distinguish these cases from local dropsies. But it is also admitted, that serum is found in the urine in cases of anasarca following ascites. Consequently, if there be none in cases of simple ascites, and if it only appears when anasarca supervenes, the only conclusion that may be drawn from these facts, is, that anasarca is the only form of dropsy, in which serum is absorbed, and passed off by the kidneys; and if there be a greater quantity discharged when anasarca is primary, it is only because the disease is more violent, and generally more extensive. But, surely all this is far from proving, that primary anasarca is a general disease, and owes its origin to a primary arterial excitement of the whole system. When fever exists first, and terminates in dropsy, who has proved, that there existed no local irritation producing the fever, and that the hydropic irritation has not supervened by metastasis. This takes place in scarlatina and other eruptive diseases, which Dr. A. would surely not be justified in calling general diseases. Dropsy follows the suppression of cutaneous diseases, unattended with fever; consequently, when there happens to be a febrile excitement, we are at a loss to know, why we should call this latter to our aid, in our explanation of the dropsical effusion, and not account for it on the same principle, as we did in the former cases; namely, by metastasis. If febrile symptoms are sufficient to make us regard a disease as general, then there is no local disease, except when apyretic.

We now proceed to notice the mode of treatment, recommended by our author, for the different forms of dropsy. From what we have seen, it is natural to conclude, that as Dr. AYRE regards the proximate cause of the several forms of the effusion, or in other words, the *disease*, to be the same under all its conditions, he will be of opinion, that "the same general principles of treatment, are alike applicable to all—subject only to such modifications, as arise from differences in the nature and intensity of the remote cause, and those general or local relations of the parts implicated in the serous effusion, with the diseases of the organs, which incidentally produce it." Founding upon these views the indications of cure, he states them to be; 1st. To remove the visceral, or such other disease or state, which, when present, proves a remote cause of the effusion; 2nd. To remove the morbidly increased action in the serous membrane or tissue, which is its proximate cause. 3d. To promote the absorption of the effused fluid.

Agreeably to Dr. A. the treatment of hydrocephalus internus, is divisible into three general heads;

> "The first, consisting of means to correct, with its causes, that turgescent state of the brain, which may produce the arterial re-action and effusion; the second, of those which shall subdue the excitement, when formed; the third, to correct or relieve, as far as it is practicable, the effects of the effusion, and procure, if possible, its absorption."

With respect to the general causes, tending to produce that congestive state of the brain, precursory to its inflammation, he remarks, that they are of three kinds; 1st. Those acting through the general system, and consisting of an irritation, from some obstructed or required evacuation; 2nd. A local disease, seated in the head, or a local injury inflicted on it; 3d. Chylopoietic disturbance, acting sympathetically upon the brain. When the first of these causes appears to have been instrumental, in occasioning this condition of the brain, it is plain that it must be removed, and the obstructed emunctory corrected,—the suppressed evacuation promoted, or a new and artificial one substituted. When there exists any structural disease within the head, or a relic of a former state of excitement, a serous inflammation may be reasonably apprehended, and to avert it, the most rigid and undeviating attention must be paid to regimen, whilst cupping and leeching must be employed, and a seton fixed in the neck.

> "For the object of the treatment, in these cases, is not to remove, but to avert the inflammation, and which, from the strong disposition to it, conferred by the organic disease, can only be effected by avoiding, not merely the causes of inflammation, but likewise, all those agents, which are calculated, in any way, to increase the momentum of the circulation." "Beyond those, the common precautions against morbid irritations, little else can be done."

When the turgescent state of the brain, arises from a disturbance in the digestive organs, it will be remedied, by means directed to this cause. Our author locates the primary seat of this disturbance, in most cases, in the liver; though he admits, it may occasionally be in the stomach and intestines. He places great reliance for correcting and increasing the secretion of bile, on small doses of calomel,—purging off the contents of the intestines by aperient medicines; and recommends, at the same time, the application of cups and leeches to the temples, as a measure of precaution. He very properly lays considerable stress on the necessity of combating this secondary affection of the head;

> "For though the means applied, to correct the disorder in the digestive organs, may be sufficient to remove the turgescent state of the brain, which arose from it, yet, those means will have little or no control over the excitement, which that turgescent state has created; and still less can they avail in subduing an excitement, that may even survive its remote cause, and continue independently of it. By overlooking these facts, much distrust and disappointment have arisen with many, who confided in the opinion, delivered by some writers, of the uniform prevalency of chylopoietic disturbance, as a cause of this disease, and of the sufficiency of calomel to remove it."

When the inflammation exists, and is a sequel of some pre-existing structural disease in the brain or membranes, all that can be reasonably expected, is to *palliate* it by the antiphlogistic plan; but when it is idiopathic it may readily be cured, by the same remedies, graduated to the age and strength of the patient and to the violence of the attack. Dr. A. seems to rely principally on cups and leeches;—not excluding, in some cases, bleeding from the arm. Blisters to the summit of the head and afterwards a cold evaporating lotion to the temples, are also recommended. As soon as, by these means, an impression is made on the disease, mild diaphoretic medicines, assisted by the tepid bath, or the pediluvium, may be prescribed;—the bowels are to be kept open by small doses of calomel, followed after two hours by a draught of some aperient medicine,—the antiphlogistic regimen should be rigidly enforced, and light and noise carefully excluded.

"Many practitioners give the mild preparations of mercury, and particularly calomel, freely in this disease, under a notion of its having some specific power in subduing it; but it never should be so used, excepting in cases where the disease is symptomatic of some functional disturbance in the liver and other chylopoietic organs, where it is calculated, in conjunction with the local bleeding, &c. to afford the most important service."

With a view of pointing out some characteristic sign, by which to distinguish those cases in which the affection of the bowels is primary from those in which it is secondary, he remarks—

"The condition of the stools at the period when a child is labouring under the disease, will afford to such persons but an imperfect notion of its true nature; for the disturbance of the brain will often create a disorder in the secretions, both of the liver and the other chylopoietic organs, producing green looking-stools; and there is often a congestive state of the brain for a short time preceding the full development of the idiopathic excitement, which may, in like manner, by reacting upon the liver, create a disorder there. In cases, however, which are symptomatic of this cause, the chylopoietic disturbance will be found to have existed several days or even weeks; and the origin of the disorder, in like manner, may be commonly traced to some irregularity of diet, or other obvious causes, and frequently in infants to those which are connected with premature weaning; and sometimes even the cerebral disorder itself will have been only the last of a series of effects in the system, to which such disturbance had given rise."

Agreeably to Dr. A., it is not proper to discontinue those means, immediately upon the occurrence of what appears to be symptoms of effusion, since, frequently, these symptoms, as it respects the effusion, will immediately manifest their fictitious character, and disappear under a treatment no wise adapted to such a state, and with a rapidity, too, which equally betrays their true nature. He notices, though we believe not in its proper place, a modification of the disease in which the effusion takes place in the cellular membrane of the substance of the brain, and thinks this species more likely to be recovered from than when the water accumulates in the ventricles. He concludes this section by remarking, that

"Of the means to be employed to promote the absorption of the water, under these or other circumstances of its accumulation in the brain, little satisfactory can be said. The treatment must be founded on the use of such means as shall avert the risk of renewing an inflammation in the organ. To this end, occasional blistering the head will be proper; the diet must be spare, and the several secretions, particularly those of the kidneys, must be cautiously promoted."

We next turn to the treatment of hydrothorax and ascites. As the existence of hydrothorax in its early stage is difficult to ascertain, and as what have been called premonitory symptoms are only those proper to the mildest forms of the disease, and not of that condition of the parts which gives rise to the effusion, the treatment is somewhat difficult, and, in too many instances, our remedies are directed, not to the disease itself, but to one of its effects. Faithful to his view of the pathology of dropsy, Dr. A. remarks, that the plan of treatment to be pursued at an early stage of symptomatic hydrothorax, must consist in the use of those means which shall subdue the chronic excitement of the serous membrane, as well as the chronic inflammation of the diseased organ. To attain this end, the antiphlogistic and revulsive plans, graduated to the age and strength of the patient, and to the violence of the disease are recommended. In general the frequent application of leeches are held by Dr. A. as preferable to venesection, unless the patient be plethoric, and the disease arise from a local congestion within the chest, which, according to him, is often a cause of serous inflammation of the thoracic tissue, independently of any previous disease. Dr AYRE calls attention to the fact, that topical bleeding is particularly adapted to correct that chronic inflammation of the serous membranes, which causes an effusion from them, and which is neither the result of any inflammatory excitement of the general system, nor of a nature to produce it; and that when properly conducted, it has the advantage of acting only slightly on the general system, and therefore only slightly on the general strength, and very considerably on the local disease. Together with leeches, blisters are to be used, and after the chronic action existing in the serous membrane is subdued by these means, a seton fixed in the integuments of the chest will be found of great utility.

The same treatment will be found equally serviceable, not only to correct the chronic excitement existing in the peritoneal membrane and giving rise to ascites, but very commonly to cure or palliate the visceral disease producing it. In respect to the very common practice of resorting to mercury in this complaint, our author makes the following judicious remarks.

"With too many practitioners, it is the practice to employ mercury freely in every case of abdominal dropsy, under the vague notion of there existing some mechanical obstruction in the liver or other viscus, as a cause of it; and under the equally vague notion, that mercury so employed will remove it. The practice, however, to speak of it in the mildest terms, is founded on erroneous views of the pathology of these diseases; and employed, therefore, as it is by some, on all the occasions in which they meet with them, must be frequently very injurious. For, independently of the injury to be inflicted by it, when given freely in some of the forms of liver disease, there is an effect produced by it on the urine, when given to a person in health, resembling that which arises from the specific excitement of dropsy. Under a salivation, the urine becomes charged with serum. Any condition of the system, therefore, approaching even to a state of salivation, must be injurious, by the tendency it must have to increase that morbid state of the body, which is nearest allied to the hydropic one. Hence the mercurial salivation has been numbered amongst the remote causes of dropsy; and the resemblance between the dropsical and mercurial excitement, thus established by the common resemblance of the urine in these states, goes far to prove this connexion; and it is not improbable, that the mercurial inflammation, when considerable, may survive its specific cause, and degenerate at length into the purely hydropic state. When, however, mercury is given in minute doses, so that these its specific morbid effects are not produced, it is capable of becoming highly useful, as we shall presently have occasion to notice."

In conjunction with bleeding and other means just noticed, drastic purges have an important influence in subduing the disease; not merely by removing the water, but likewise by contributing to subdue the chronic excitement which occasions its effusion. This latter effect Dr. A. very justly refers to the counteraction and irritation these medicines excite on the mucous membrane of the bowels, by which the excitement of the serous tissue or of the diseased viscus is removed. He remarks that drastic purgatives are sometimes inadmissible in ascites, when an affection of the liver or mesentery is its remote cause, and there is a tendency to a spontaneous diarrhœa, which even the mildest purgatives would increase. "In the case of the mesentery, such a mode of treating dropsy would speedily destroy the patient." Dr. A. ought, perhaps, to have explained the real cause of the danger attending the practice, and not referred it merely to the tendency to diarrhœa, which itself can only be an effect of a morbid condition of the bowels. The fact is, that most cases of hepatitis, and all cases of mesenteric disease, are attended, whether as cause or effect we care not, with inflammation of the stomach or bowels, which purgatives can only tend to aggravate. In general, the practice of administering drastic purgatives is more serviceable in hydrothorax, and especially in anasarca, or in *idiopathic* serous inflammation of the peritoneum Dr. A. prefers the gamboge to all other medicines of the same class, and gives it to the amount of four or five grains in a single dose, with the same quantity of some aromatic powder, and triturated with a few crystals of the supertartrate of potassa; or in urgent cases of hydrothorax, he prescribes ten or twelve grains, divided into four doses, one of which is to be given every three hours. When the strength admits of it, the purgative may be given every four or five days.

Dr. A. next notices diuretics.

> "The sensible operation of these medicines," he says, "as is well known, is to promote the secretion of the kidneys. There appears to me, however, to be farther effects produced by them upon the system, or particular parts of the system, which is not referrible to the mere evacuation of a certain quantity of fluid from the body; and these effects, it is probable, consist in promoting the natural discharges by this and, perhaps, the other emunctories, whose partial suppression may either produce this disease, or serve materially to continue it; and likewise in occasioning a derivation of blood to the kidneys, and therefore to a part distant from the morbid one; and that thus, whilst they are contributing materially to the removal of the fluid, they are serving like the purgative, an important end, in assisting to subdue the cause of it. The medicines which I am accustomed almost entirely to rely on in this disease, are the powder of dried squill and digitalis, given in combination in the form of pills, and in doses, which, from their smallness, will probably excite no little surprise in the minds of some of my readers. The dose of the squill is something less than a grain, and of the digitalis only a sixth part of a grain, given uninterruptedly every third or fourth hour."

To render these medicines more effectual, a third or half a grain of calomel may be given nightly, and an infusion of dandelion, or some other popular diuretic, may be taken *ad libitum*. Our author speaks in terms of merited disapprobation of the practice pursued by some physicians, of allowing their patients daily, potions of gin punch, with the view of aiding the operation of the diuretic medicine, and supporting their strength. He shows, that, although by these means the water may be promptly evacuated, the disease is not cured, and the effusion is soon renewed with redoubled violence and danger to the patient.

In the idiopathic form of hydropic inflammation, attacking the serous membranes of the chest and abdomen, and which, agreeably to our author, may be strictly local, or consist in a general specific excitement of the system, leading to a general watery effusion, the lancet is particularly advantageous, and should be had recourse to. The pulse is generally hard, the blood exhibits a buffy appearance, and the urine coagulates when subjected to heat. Leeches, in pretty large numbers, must also be used, as well as all the remedies already enumerated. But as in these cases, which according to Dr. Ayre are more common among females than males; and among the younger than those of middle and advanced age, the disease is of a more acute nature, a greater reliance is to be placed on an active antiphlogistic plan; and if this be steadfastly persevered in, comparatively little difficulty will be experienced in effecting a discharge of the water.

When hydrothorax occurs after scarlatina, and is combined with anasarca, its course is generally rapid, and the cure difficult; partaking, as it often does, of the two-fold state of debility and excitement. When detected early, the lancet must be promptly used. Cups and leeches, followed by the warm bath, blisters, and cathartics, must also be resorted to.

> "Diuretics, which are so beneficial in the less acute forms of dropsy, are commonly too inert and slow in this, unless given in doses to act immediately upon the vascular system, when the infusion of digitalis, as given by many practitioners in all the other states of the disease, may be resorted to; since the treatment here is not so much to remove the water, as to prevent, if possible, its farther effusion; for when a discharge suddenly takes place into the chest after scarlet fever, it will generally prove fatal, even though the quantity collected be inconsiderable, and only such as would occasion, if gradually effused, a moderate degree of inconvenience to the lungs."

In respect to tapping, our author remarks, that the circumstances calling for this operation are, where, from the very considerable accumulation of water, and the consequent distension it occasions, a permanent and morbid stimulus is given to the peritoneal membrane, by which its serous inflammation is perpetuated or increased; or where so much pain and irritation are produced, as to risk inducing a similar disease in the chest, and of bringing on likewise an ulcerative form of inflammation in the peritoneal lining of the abdomen.

> "Whilst the objections to its employment consist in the danger which is incurred, where there is much visceral disease, of its causing a destructive form of inflammation in the peritoneum; and the probability of its occasioning, under the most favourable condition of the disease, a more rapid renewal of the serous accumulation."

Our limits not allowing us to enter on the treatment of ovarian dropsy, we proceed to offer a few remarks on the means recommended by Dr. A. for the cure of anasarca. As in the treatment of every other form of dropsy, it is necessary, in attempting the cure of anasarca, to advert to the nature and causes of the disease.

> "If it be idiopathic, and unconnected with any dropsy of a circumscribed cavity, and the pulse at the same time be soft, and the urine free from serum, it may be treated solely with the view of procuring the absorption of the effused fluid; as in such cases, the watery discharge in all probability will have removed, in a considerable degree, the excitement which caused it."

It is in such cases that recoveries take place under almost any plan of treatment, and that bark and other tonics have been found beneficial. Their utility, however, in these cases is very limited, consisting only in aiding the removal of the effects of the disease, and keeping up the strength of the system, whilst the absorbents perform their function, and remove the fluid. Dr. A. recommends, in these cases, puncturing and bandages; but he very justly adds, that they must not be employed, whenever there remains any inflammation in the parts, as they would then tend to aggravate it.

> "To œdematous swellings, in which the serous local inflammation, whether symptomatic or idiopathic, still subsists, I am accustomed to direct the application of leeches and cold evaporating lotions; observing not to commence the use of the latter, until twelve hours after the leeches have been used, that inflammation may not be produced in the wound." "When anasarca arises from a general excited state of the system, as denoted by the pulse, and by the serous quality of the urine, venesection becomes necessary, combined with the use of leeches, applied to the extremities, or to those parts of the body, in which the serous tissues are most affected, along with the active use of the general means already alluded to."

In anasarca, an error is sometimes committed, especially by young practitioners, of estimating the degree of danger, and the necessity for active treatment, by the single consideration of the extent of the œdematous swelling. This, however, should be guarded against, as the swelling may be very considerable, and the disease subsided, or of little consequence; whilst, in other instances, the reverse may be the case. In the first instance, where the disease is not seen early, the treatment must sometimes be limited to those means which promote the absorption of the water, and neither venesection nor leeches will be required. In such cases, the practitioner must be guided by the state of the pulse and urine; the presence or absence of vascular excitement; the history given of the case up to the period when visited, and particularly by the progress of the swelling.

"When the dropsy of the skin is considerable and long protracted, and symptomatic of some visceral disease, as it most commonly is in these cases, and is attended by a serous state of the urine, and a general failure of the strength, the cachetical state of the system may be considered as established, and the treatment is then beset with difficulties. For the general means, which are useful in the earlier states of the disease, and when the vital strength is entire, become injurious in this, by the tendency they have, aided by the effects of the visceral disease, to diminish farther the vigour of the system; whilst, at the same time, the treatment, which is suited to support the declining strength, can contribute nothing towards lessening the constitutional and local diseases, but will frequently increase the morbidly excited state of the circulation, which, analogous to what occurs in diabetes, will continue and increase under the most decided marks of general constitutional weakness. Pending the continuance of that inflammatory state of the system, in which the urine is charged with serum, the debility will be mainly derived from that drain of its nutrient parts, which is thus established in the body, assisted by the weakening effects of the organic disease. If blood be drawn, it will be found, in many of these cases, to exhibit the usual signs of inflammation; and the treatment of the tonic kind, when employed to support the strength, will be found to act unfavourably.

"The plan to be pursued must consist in the use of such means as shall assist the powers of digestion and assimilation; so that, by a highly nourishing but plain diet, the drain from the system may be somewhat counteracted; and, at the same time, the cause of the effusion is to be corrected by the use of local depletion and blistering, and by the temperate employment of those general means, which are useful in the less aggravated forms of the disease."

The diet of patients, in the symptomatic forms of dropsy, should be plain and unirritating; and in the idiopathic states, the antiphlogistic regimen should be rigidly enforced; particularly an abstinence from all fermented liquors, until the inflammatory period of the disease be removed. The clothing should be moderately warm, and selected of that kind, best suited to promote the insensible perspiration of the surface.

Before taking leave of Dr. AYRE, we cannot omit adverting, in a very few words, to a circumstance noticed in his preface, and which we think of some importance. He remarks, that if, in the prosecution of his task, he has had no acknowledgments to make to any individual as his guide and authority, he is nevertheless indebted for many important facts to the writings of the late Dr. WELLS, and of Drs. BLACKALL, ABERCROMBIE, and DUNCAN, jun. and particularly to the system of pathology of Dr. PARRY. He further remarks, that he entertained and taught for many years, the views advocated in this work, and that, after the manuscript had been sent to press, he had seen a copy of an abridged edition of the elaborate Dictionnaire des Sciences Médicales, in which the doctrine of dropsy, maintained in the larger work, is relinquished; whilst others are given in their place, conformable, in the main, with those which it is the object of his treatise to establish. Now it would appear, from these expressions, that Dr. AYRE wishes to inculcate the idea, that the English writers, whom he has cited, were the only ones who had published any thing valuable, and conformable to his doctrine; and that prior to 1823, the year of the publication of the Dictionary above mentioned, the French entertained very different views of the pathology of the disease. We think it our duty, however, to rectify our author in this respect, and to show to our readers, that, even allowing full credit to Drs. WELLS, BLACKALL, ABERCROMBIE, &c. for their researches into the nature and treatment of dropsy, the American, French, and Italian pathologists are entitled to a much larger share than is allowed to them in the present work. A few references will be sufficient. Many years ago, our celebrated RUSH taught, that general dropsies "depend on a certain morbid excitement of the arteries;" and that hydrocephalus, "in its first stage, is the effect of causes, which produce a less degree of that morbid action in the brain which constitutes phrenitis." In 1812, Dr. BRESCHET, of Paris, published an excellent dissertation on active dropsies. In the early writings of BROUSSAIS, though more particularly in the propositions prefixed to his *Examen*, the opinion is maintained, that all active dropsies depend on irritation, either primary or secondary, of the serous and cellular tissues;—a theory more closely allied to Dr. A.'s, than all that is contained in the writings of Drs. WELLS. PARRY. &c. But what, perhaps, is more to our purpose, Dr. GEROMINI, of Cremona, published a work, in 1816, on the origin and cure of dropsy, in which he compares the dropsical accumulation to that of serum produced by the inflammation of a blister, or by fire; and in which he also maintains, that a slight inflammation occasions a flow of limpid serous fluid, whilst a higher degree gives rise to the formation of pus. From these circumstances, he concludes, that the hydropic fluid which contains little albumen, is the product of a lower grade of inflammation. In the same work, he finally asserts, that in more than 200 individuals who had died of dropsy, he invariably found marks of inflammation or its effects; views which our readers will readily discover to be nearly allied to those supported by Dr. A. In making these remarks, however, we do not wish to be understood as asserting, that the theory advanced by our author did not originate also with him. We have too favourable an opinion of his honesty, to accuse him of plagiarism. Our sole intention has been to render unto each the degree of praise to which he is entitled, and, by pointing out this coincidence of opinion, to derive a further proof of the correctness of most of the pathological views, so ably defended in the present work.

ARTICLE VIII.—*An Essay on Venereal Diseases, and the Uses and Abuses of Mercury in their Treatment.* By RICHARD CARMICHAEL, M. R. I. A. *With Practical Notes, &c.* by G. EMERSON, M. D. Philadelphia, J. Harding, 1825; pp. 360.

ONE of the most important improvements in practice, which modern experience has established, is the reformed method of treating venereal diseases.

To the labours of several distinguished military physicians and surgeons of Great Britain, we are chiefly indebted for the facts and researches connected with this interesting subject. And although we may have much to learn in regard to the true nature of these complaints; yet the plan adopted by Mr. CARMICHAEL, of determining their distinct pathological characteristics, and applying the remedies accordingly, is the only one likely to subvert the empirical routine of prescribing mercury on all occasions, a practice which derives such strong support both from the indolence and prejudices of the profession.*

In this country, many eminent practitioners have contributed to restrain the abuse of mercury; and it is believed, that Professor Chapman has for many years, in his lectures, disseminated the most enlightened doctrines on this point. Dr. Harris and other surgeons of the navy have made a fair [illegible]l of the non-mercurial treatment, and with the most satisfactory results.

The great object, so desirable of attainment, is to form a correct discrimination between the diseases, which may be cured or benefited by the exhibition of mercury, and those which do not require this medicine, or become aggravated by its use; for it seldom fails to do injury, when its advantages are not very obvious.

Mr. Carmichael has taken the most conspicuous part in this investigation for the last fifteen years, and from the extensive theatre, in which his inquiries were conducted, has had the best opportunities of arriving at the truth. He, therefore, who undertakes the management of these affections, may be justly pronounced culpable, if he neglect to make himself acquainted with the experience of this eminent surgeon.

In this enlarged and improved edition of his work, several subjects have not been treated of so copiously by the author, as was requisite to render it acceptable as a book of reference; but the judicious notes of Dr. Emerson, whose attention has been profitably directed to the investigation of venereal diseases, have well supplied the deficiency.

A brief outline is here presented of the contents.

The author describes the various symptoms in plain and intelligible terms; rejecting such unmeaning appellations as syphiloidal, pseudo-syphilis, &c. as designating no particular phenomena, and therefore of no use in describing a disease.

He thinks there is a plurality of venereal poisons, and has divided the disease into four classes, from their different primary and secondary symptoms; making the eruptions on the skin the most certain criterion of distinguishing them from each other.

These classes are:—the papular venereal disease; the pustular; the phagedenic; and the scaly venereal disease. The latter is the true syphilis.

First, the Papular. This is the most common disease, and the most easily cured. Its primary symptoms are, a simple ulcer without induration, without elevated edges, and without phagedena. Sometimes there is a patchy excoriation of the glans penis, attended with a purulent discharge. This disease and gonorrhœa are caused by the same poison. The constitutional symptoms are:—fever; pain in the head, shoulders, and larger joints; pain in the chest; dyspnœa; a papular eruption on the forehead, chest, and back, sometimes extending in a more scattered way over the extremities. It is often attended with iritis. It never gives rise to nodes. The sore throat is different from that in syphilis; the latter having deep excavated ulcers. If buboes accompany it, they are mostly of an indolent nature. The eruptions do not all appear at once; but follow each other. When on the decline, they are of a pale red or copper colour, not scaly, as in syphilis, but papular; disappearing and recurring repeatedly, and ending in desquamation.

Remedies.—Venesection; cathartics; antiphlogistic regimen; antimonials, combined with decoction of sarsaparilla. Alterative doses of calomel and antimonials, when the eruption declines.

The local treatment consists in astringent washes and simple dressings.

Iritis is to be cured by venesection, cathartics, mercury, blisters, and belladonna.

This disease will yield to the powers of the constitution. Mercury is always injurious in the early stage.

Second, Pustular venereal disease.

Primary ulcer of a reddish-brown colour; borders closely on the phagedenic character. The edges raised and well defined; not excavated, but on a level with or above the surrounding skin. In the commencement, a small itchy pustula; distinguished from the ulcer attending the papular disease by its well defined and elevated edges, and by the absence of the smooth fungous surface of the former; from the phagedenic by its well defined margin and its corroded-like surface, and the absence of acute pain; and from chancre by the absence of the callous edges and base. These ulcers are of a chronic nature, showing little disposition to spread. The ulcers from buboes partake of the same character, the edges being hard and the ulcer disposed to burrow. These edges Mr. C. removes with the knife. The disease is rendered extremely obstinate, where full courses of mercury have been given. The more closely the eruption approaches the papular, the more mild and manageable will be the disease.

Constitutional symptoms.—The eruption is pustular, and often exhibits simultaneously new pustules; also scabbing ulcers, the crusts of which fall off, and leave discoloured patches of skin after healing. For these ulcers of the skin, the best remedies are, sulphur fumigations, nitro-muriatic acid baths, and ointment of tar and sulphur.

Remedies.—Rest; gentle astringents; mild ointments; antimonials and sarsaparilla:—for the constitutional symptoms; venesection; cathartics; antimonials; sarsaparilla.

Mercury is decidedly injurious, until the disease is on the wane, when alterative doses may accelerate the cure.

Third, Phagedenic venereal disease.

The primary ulcer has a corroded appearance. It exhibits neither granulations nor induration. It spreads sometimes rapidly, sometimes slowly; healing in one part, while ulcerating in another. It is mostly situated on the glans and prepuce, and often attended with hemorrhage. In this disease, buboes most frequently appear.

The sloughing ulcer occurs also in this disease Mercury is extremely pernicious, always rendering the disease more inveterate and rapid in its progress.

Constitutional symptoms.—High fever precedes the eruption, but abates afterwards. Nocturnal headachs; tenderness of the scalp; slight dyspnœa; tenderness of the sternum on pressure; soreness of the chest; an eruption of tubercles, or pustules, or spots of a pustular tendency, which quickly degenerate into ulcers, with thick crusts, that heal from the centre, while they extend from the circumference, with phagedenic borders. The crusts are often of a conical figure. The ulceration of the throat is of the most formidable nature. It commences in the form of a small white aphthous sore; which usually attacks the velum or posterior part of the pharynx, mostly the latter. It extends rapidly, destroying the parts, and at last attacks the bones. It often attacks the larynx, after which, the patient seldom recovers. The affection of the bones of the nose is never joined with the papular eruption, nor with the scaly syphilitic lepra; but in every case with the pustular description, and when scales and ulcers were present. At the time of the eruption, pains in the knees, wrists, and ankles occur, attended with swelling and redness. He has never seen nodes in the disease, except in cases where mercury had been given. Full courses of mercury introduce the disease into the deep seated parts; for the bones are seldom or never affected in this disease, unless mercury has been given.

Remedies for the primary symptoms.—Absolute rest; venesection; nauseating doses of antimonials; warm poultices and fomentations; opium; hyosciamus and cicuta in sufficient doses to lessen pain and irritation. For the sloughing ulcer, stimulating applications are often useful; such as Venice turpentine or balsam copaibæ, mixed with olive oil.

For the secondary symptoms:—Venesection; antimonials; sarsaparilla; Dover's powder. Mercury increases the ravages of the disease, except when on the wane, when it may be given in alterative doses, with safety and advantage. For the pain in the head, a blister to the nape of the neck. If the eruption appear scaly, then mercury is likely to be useful. If the throat and skin are affected, muriate of mercury in solution, and decoction of sarsaparilla. If the ulcer in the throat be small, touch it with the oxymel æruginis, or solution of nitrate of silver, grs. v a x to an ounce of water; but if there exist extensive ulcerations, fumigations with red sulphuret of mercury ought to be employed.

Fourth, Scaly Venereal Disease, or Syphilis.—Primary ulcer of a circular form, excavated, without granulations, with matter adhering to the surface, and with a thickened edge and base. The hardening is very circumscribed, not diffusing itself gradually or imperceptibly into the surrounding parts, but terminating rather abruptly. Its progress is slow, sometimes assuming a tawny appearance.

Constitutional symptoms.—Sometimes the skin, at other times the throat, is first affected. There is headach, restlessness, and fever. The scaly eruption appears, but does not relieve the fever, as in the other diseases. This eruption commences with a small hard reddish protuberance; and as it advances, the sides are raised, and centre depressed or flat, and covered with thin white scales. It terminates in ulcerated blotches. This eruption appears on the forehead, breast, back of the neck, and groin; often in large copper coloured blotches, in parts near the hair. The ulcers of the throat mostly affect the tonsils, and come on without much previous pain or swelling; although there soon appears a considerable excavation of the tonsil, attended with evident loss of substance. The ulcer is foul, with thick white matter adherent to it, which cannot be washed away. The bones then become affected, those nearest the surface being most liable to attack; such as the tibia, sternum, clavicle, and cranium.

The remedies for syphilis are full courses of mercury, for both primary and secondary symptoms; except where a tendency to phthisis, or a delicate constitution forbids them. He thinks syphilis a rare disease now, compared with what it was formerly.

ARTICLE IX.—*Remarks on some Means employed to destroy Tænia, and expel them from the Human Body.*—By LOUIS FRANK, M. D. Privy Counsellor of her Majesty, Maria Louisa, Duchess of Parma. [Lond. Med. Rep. April 1825.]

THE symptoms produced by the presence of tape worm in the human body, are exceedingly distressing, and the sufferings of the patient are increased, by the obstinacy, with which these animals resist the operation of the most disgusting, and even painful and dangerous remedies. Improvements in the mode of attacking and expelling them, therefore, should be gladly received, and widely made known.

The numerous reports which we have received, concerning oil of turpentine as a remedy for tænia solium, have already given to that remedy the highest character; but many cases have been only partially relieved by it. The ol. tereb. seems to be capable of causing the separation and expulsion of portions of the animal; but while the head remains unexpelled, it is supposed to be capable of reproducing the joints, to a degree not yet ascertained. If we may believe medical writers, the tænia has been observed of the enormous length of 700 feet. It is probable that the re-production, after the loss of large numbers of joints, is often very rapidly effected; as was the case in a patient treated at the Carey Street Dispensary, mentioned in their report for Aug. 1813.* This person always discharged very considerable quantities of joints or fragments, after the use of oil of turpentine; after which, he remained free from the complaint for a few months, until the tænia recovered a troublesome magnitude; when it was again easily reduced to less uncomfortable dimensions.

We are not able to state positively, how long the oil of turpentine has been in use as a remedy for tænia. The Carey Street Report for Feb. 1810, informs us, that a mechanic in Durham, having been very successful in the treatment of tænia by means of this article, the circumstance was communicated by Dr. Southey, of that place, to Dr. Laird of London; and it was accordingly prescribed in doses of ℥ss. to ℥ij. at several of the London charities. It had been found, says the report, that ol. tereb. might be thus given, as safely as so much gin, and frequently caused the expulsion in two hours: Dr. Knox says it has been in use in Germany for fifty years for the expulsion of tænia.

The experience of Dr. Knox, concerning tænia, at the Cape of Good Hope, is the most extraordinary that we are acquainted with. Dr. Sparman, the traveller, had observed, that worms were exceedingly common in the northern parts of the colony; but Dr. Knox, who was there in 1819, did not notice any special prevalence of verminous disorders, "previous to Oct. 1819, when the *tape worm became so general among the troops, as to resemble an epidemic.*"†

Most of these troops had been employed on a short campaign to the east of the great fish river. They had been compelled to live on very bad beef and mutton, driven and starved half to death; and Dr. Knox thinks he has proved, that the tænia in these cases did "arise from the use of unwholesome animal food; from the flesh of animals, which had been diseased." Two out of five of the troops, who had been thus employed and fed, were affected with worms. Of a detachment of 86 vigorous, healthy young men, 36 were found, on inquiry, to have *tape* worm. Those who remained in the colony did not suffer so much, as those who had been out on the campaign, the ratio being as one to four; whereas of the others, it was two to five. Dr. Knox had ample experience of the utility of turpentine during this singular prevalence of tænia. Concerning the 36 men above mentioned, he says, "the cure of all, who chose to adopt the means, was easily effected by small doses of the spts. of turpentine, after the failure of purgatives and various other remedies."

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* Ed. Med. and Surg. Jour.

† Ed. Med. and Surg. Jour. July, 1821.

He considers ol. tereb. as the *most efficacious remedy.* He does not approve of large doses, because of headach, vertigo, and delirium, which have been produced by them in "many patients."

"I have generally found," says he, "that from one to two drachms of ol. tereb., given in a little water, morning and evening, for three successive days, were sufficient to destroy the tænia solium, (even in the most obstinate cases,) and cause it to leave the intestines, without the aid of any purgative medicine." He advises, however, to give a little castor oil each day about noon.

It has been a very common observation in regard to the dose of turpentine, that the patient suffers more cephalic distress when it is given in small quantity, than in a large dose. The writer of this has been obliged to desist from the exhibition of oil turpentine, in doses of ʒij twice a day, in consequence of a vertigo so considerable, as to alarm and distress his patient very much. Perhaps there might have been in this case some peculiar liability to nervous excitation, which in another patient would not have been worthy of much notice. Dr. Knox's opinion is of great weight.

The celebrated remedy of Chabert, Dr. Knox thinks, owes its efficacy to the ol. terebinth. combined with it.

Dr. Frank, whose name stands at the head of this article, was informed by the celebrated helminthologist, Dr. Bremser, at Vienna, in 1814, that he had for ten years preferred the use of Chabert's remedy, and with invariable success.

Chabert was a veterinary surgeon of Alfort, who used the animal oil of Dippel in many diseases of animals, as well as those of men. This oil he often gave for the purpose of removing tænia in his animals. He often combined it with spt. terebinth. and gave equal parts of these substances, in doses of ʒi.* The London

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* Dict. des Sciences Médicales.

Medical Repository states, that Chabert's remedy is prepared from

Ol. Corn. Cerv. Fœtid.	1 part.
Ol. Terebinth,	3 parts.

These are well mixed, and left at rest four days; they are then distilled in a sand bath, till three-fourths of the liquor has passed over. It must be kept tightly stopped, out of the light.*

The great objection to Chabert's remedy is its disgusting flavour; which is the more obnoxious, because the remedy must be continued for a length of time. Dr. Frank cured two persons affected with tænia solium, after considerable perseverance with it: he cured two other persons with a preparation as follows:

Ol. Terebinth.	℥ss
Æther. Sulphuric.	ʒij
Pulv. G. Arab.	℥ss
Aq. Flor. Chamam. distil.	℥xvj *m.*

Two spoonfuls morning and evening.

Four of these mixtures were sufficient to cure the patients, who remained well two years afterwards.

A fifth patient, unable to take the last named medicines, was cured by the boluses subjoined:

Sem. Santonic. pulv.	℥ss
Pulv. Jalap.	
Ferri Sulphat. aa	ʒi
Ol. Corn. Cervi,	gtt. viij.
Syrup.	q. s.

Make 20 boluses.

One to be taken morning and evening. These 20 boluses being repeated three times, the patient found himself perfectly well. In the above 5 cases, the tænia was discharged in fragments.

Dr. Frank does not say much concerning the bark of pomegranate root, which has come into vogue lately as a remedy for tænia. He refers to the Med. Chirurg. Transact. Vol. XII. for accounts by some English physicians, and remarks, that Dr. Gomez, the Portuguese physician, had cured 14 cases with this bark.

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* There can be no particular benefit derived from the distillation. The simple mixture of the materials, above indicated, is all that is necessary. Chabert's remedy is therefore easily prepared.

Dr. Pollock (vide Ed. Med. and Surg. Journal, Oct. 1819) treated a child, aged 14 months, with the decoction of bark of pomegranate root, so far back as the year 1811. This infant, under the use of the medicine, discharged at several times upwards of 30 feet of tænia solium, and was cured. We learn also from the Med. Repository,* that MM. Deslandes, Sourya, and Bourgeoise, have employed pomegranate with great success; that the decoction generally expelled the worm in two hours; that it sometimes occasioned vomiting and griping pains; and that it has been a common remedy for tape worm, in the East Indies, and among the blacks of St. Domingo.

From the same source we are informed, that the French pharmaceutists recommend, before boiling the bark, that it should be allowed to swell (macerate) in cold water. ℥ij of bark should be boiled in lbij of water to ℥xii. Of this decoction, ℥ij may be taken every half hour. The worm is here said to be passed often in twelve hours instead of two. It may be necessary to continue this plan four or five days, taking care to suspend the medicine, in case any vertigo, or intestinal disease supervenes. A dose of castor oil is recommended after the 4th bottle; even though the worm be happily for the patient expelled.

In the Revue Medicale is a case, in which pomegranate succeeded in discharging three ells of tænia; but the patient broke off the worm in attempting to extract it with too much violence. This circumstance recalls us to the consideration of Dr. Frank's communication. He recommends much caution in the extraction of those portions of tænia, which have remained partly in the intestine; and says that Dr. Cagnola proposed touching the extruded portion with prussic acid, in hopes of killing the whole animal by means of this violent poison. Dr. Garleke adopted this plan on an extruded portion of four inches in length, and in one hour afterwards the *whole animal came away dead.* Dr. F. suggests, that the electric shock might weaken the tænia, so as to cause it to let go its hold, and thus be unresistingly extracted. Brera recommended that the worm should be tied with a piece of silk. In this manner, it is retracted into the bowel, but begins to descend again not long afterwards. He dissuades from any attempt at forcible extraction, which excites the most distressing sensations in the bowels, and causes the risk of bringing on convulsions.

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* Lond. Med. Repos. April, 1825.

We are informed by Dr. FRANK, that a surgeon of St. Petersburg succeeded by passing the worm through a canula, and the canula through the sphincter ani muscle, so as to obviate the resistance caused by its contraction. In this manner, he easily succeeded in withdrawing the tænia *whole*, which is always desirable.

The writer of this article succeeded in removing many pieces of tænia from a female, by means of the tincture of black hellebore, given in doses of a teaspoonful for another object. The patient has since been affected with the same symptoms, and took to-day, Oct. 19th, in doses of ℥iss, repeated every hour, sixteen ounces of a decoction of the rind of pomegranate fruit, (none of the cort. rad. being procurable); after which she took a dose of castor oil. It is said, we know not on what authority, in a French journal, that this preparation possesses the same powers as the root. It may be so; but this patient had no discharge of the tape worm, after swallowing the whole of this very astringent decoction, and following up the plan by taking ℥iij of ol. ricini.

Perhaps the tænia had been effectually destroyed before. She has seen none of the joints for 18 months. The accounts, however, of the expulsion of tænia by the bark of the root, are so encouraging, that we have much pleasure in recommending it to the notice of the medical public in this country.

ARTICLE X.—*Researches Physiological and Pathological, instituted principally with a View to the Improvement of Medical and Surgical Practice.* By JAMES BLUNDELL, M. D., Lecturer on Physiology and Midwifery at the United Hospitals of St. Thomas and Guy. London, 1824, pp. 146, 8vo.

DR. BLUNDELL is the author of some celebrated experiments on the physiology of generation, and the transfusion of blood. The work at present under consideration consists of physiological observations and experiments, the substance of a paper read before the Medico-Chirurgical Society of London, in the year 1823, and not heretofore published; of experiments on a few controverted points, respecting the physiology of generation; and lastly, of some remarks on the operation of transfusion.

The first part seems intended to ascertain what degree of lesion, or losses by extirpation, the body may sustain without inducing death; and thus to open a way for improvements in surgery, by rendering the surgeon not only more bold and fearless, but more frequently successful in his attempts to preserve life, or counteract the inconvenient effects of disease and accidents. We shall make a short analysis of the first paper.

In four experiments, Dr. B. removed the left kidney of the rabbit, by incision on the outer edge. Ligatures were applied to prevent bleeding.

Two died; one in 60 hours, the other in 4½ days: both of inflammation. One recovered, and lived 5 or 6 weeks, and then died. The 4th also recovered, but died in 5 or 6 weeks. On examination, a sac was found (in place of the kidney) filled with a semifluid substance, resembling custard. p. 4.

In seven rabbits, removed the spleen. One recovered permanently, and one lived six months. p. 5.

In five rabbits, opened the abdomen, and punctured the fundus of the bladder with a lancet. Three of them recovered entirely. p. 6.

In two rabbits, cut off one-fourth of the bladder with scissors, having applied a ligature first. One died in seven months; the other still lives in good health.

Into the peritoneum of four rabbits, threw ℥i of human urine; then washed it out by injecting tepid water. One died of collapse in less than 24 hours, and two of inflammation, in 60 and 19 hours respectively. The fourth is now (12 months) in good health. p. 7.

In seven, injected ʒxi decoct. quercûs into the peritoneum. Only one recovered.

Dr. B.'s inferences from the foregoing experiments are:

1st. "Large apertures into the peritoneum of the rabbit, do not immediately induce a dangerous prostration of strength." p. 9.

2ndly. "Large apertures into the peritoneal sac of the rabbit, are not necessarily, nor perhaps generally, productive of fatal inflammation."

3dly. "In the rabbit, the kidney, the spleen, and a large piece of the bladder may be extirpated, without necessarily causing death· though death under the first operation is probable." p. 10.

4thly. "When the abdomen is laid open, and parts are removed from it in the rabbit, the first danger arises apparently from collapse; the second from general inflammation; and the last from chronic disease." (Vide experiments.)

5thly. "The rabbit's abdomen is very tender, probably no less so than that of man." See exper.

6thly. "Success in abdominal operations on the rabbit, furnishes a presumption in favour of success in similar operations on the human abdomen; and, therefore, from these experiments, we may infer, *presumptively*, that moderate openings into the human peritoneum will not necessarily, nor even generally prove fatal from inflammation or otherwise; and further, that certain viscera or parts of viscera, not essential to the welfare of our structure, may be removed from the belly, without necessarily, or even generally, producing death. The extirpation of the kidney must be highly dangerous; but there is a presumption in favour of the successful removal of the spleen, the ovaries, or even of large pieces of the bladder." p. 11, 12.

Dr. B. having stated the foregoing results and inferences, proceeds by relating instances of severe injury sustained by the *human* body, without being followed by death. These are confirmatory of his inferences from the experiments on rabbits. The instances given are—an os uteri torn off; extensive laceration of the uterus and rectum in labour; four uteri extirpated on account of chronic inversion, (p. 13.) One of these last under his own care. It was removed by a wire, and came off in 11 days, without one bad symptom, (p. 14.) Rupture and laceration of the abdominal coverings, four fingers' breadth, the bowels hanging out, (p. 14.) Two spleens removed; one in a soldier after the battle of Dettingen, who recovered without inconvenience afterwards; the other in a Mexican, whose case is related by Dr. O'BRIEN, in his Inaugural Essay, Edinb. 1818, (p. 15.) Three cases of rupture of the dropsical ovary. Two cases of opening into the abdomen, for the extirpation of dropsical ovaries, (p. 18.) Five cases of laceration of the uterus by natural efforts. Four of the women died, but in the fifth, Dr. BLUNDELL turned and delivered, after the child had escaped into the peritoneal sac, and the woman recovered, (p. 20.) Cesarian operation, three times by a friend of Dr. HAIGHTON; once successfully, (p. 22.)

Dr. B. says, "From these (facts) few as they are, I feel conscious that no certain inference can yet be drawn; though *presumptive* inferences certainly may, and they seem to me to be the following:

"1st. Small wounds, as tapping, hernia, &c. do not induce fatal peritonitis; and therefore the vulgar opinion that inflammation in a spot of the peritoneum will almost invariably diffuse itself over the greater part of it, is probably unfounded.

"2nd. Extensive divisions of the peritoneum are not necessarily fatal by inflammation or otherwise, and *probably* not generally so.

"3d. That the womb, spleen, and ovaries, may be removed in the mode mentioned, without necessarily, and, *presumptively*, without generally destroying life.

"4th. That the gravid uterus may be torn open; the child may escape into the peritoneal sac; the os uteri may be torn off: not indeed, so far as these cases may be relied on, without great danger, but twice, in seven instances, without death. p. 28.

"5th. The peritoneum and abdominal viscera will bear more injury than the British surgeons seem disposed to admit.

"6th. That the above observations on the human abdomen, are in unison with those drawn from observations on the rabbit; and that observations made on the brute have more correspondence with those on the human being, than is generally believed."

Dr. Blundell next remarks, that the facts related create a suspicion that a bolder abdominal surgery would not be unattended with success, and recommends the following operations to "*consideration* merely, and not to practice, except in otherwise desperate cases."

1st. "When the Cesarian section is performed, divide or remove a small piece of Fallopian tube, so as to prevent the danger of reimpregnation, without destroying the sexual propensity. The need for a second operation might thus be certainly prevented, without scarcely increasing the danger."

2ndly. "Extirpation of healthy ovaries."

3dly. "The extirpation of the ovarian cyst in scirrhus, combined with dropsy, or in simple dropsy." He remarks, "This operation will, I am persuaded, ultimately come into general use; and if the British surgeons will not patronize and perform it, the French and American surgeons will." p. 26.

4thly. "The removal of a large circular piece of the cyst in ovarian dropsy, when the sac itself cannot be extirpated."

5thly. "The removal of the cancerous womb, when the ulceration first makes its appearance. Might not the womb be taken out above the symphysis pubis, or through the outlet of the pelvis ?" &c. 27.

6thly. "Extirpation of the puerperal uterus." He suggests the removal of the whole womb after the Cesarian section, in order that the smaller might take place of the larger and more formidable wound through the uterus—but says expressly, "No operation perhaps can be more unpromising, shall I say more unjustifiable, in the *present state of our knowledge;* but I thought it proper to mention it." &c. p. 28.

7thly. "Should the bladder give way into the peritoneum," he asks, "Why should we not lay open the abdomen, tie up the bladder, discharge the urine, and wash out the peritoneum thoroughly, by the injection of warm water?" p. 28.

8thly. - - - -

9thly. Injection of astringents into the ovarian cyst or peritoneal sac, unjustifiable.

10thly. "In cases of strongly characterized introsusception," why not make an opening into the peritoneum; and "pass the small intestines, fold by fold, through the fingers." Dr. B. has repeatedly done this in the dog and rabbit, without producing death, or extensive and dangerous inflammation.

11thly. In the rabbit, he has tied an abdominal artery, and carried the end of the ligature with a broad needle out through the back, opposite to the place of the vessel. This ligature can come away, and is a better mode than to leave it hanging out at the abdomen, or entirely among the bowels, where it forms a sac of puriform matter, and to appearance lays the foundation of chronic disease. p. 30.

Dr. BLUNDELL closes this paper by saying, that since the substance of it was read before the Medico-Chirurgical Society, in 1823, Dr. RITZIUS, a Swedish physician, had informed him in London, "that the complete removal of the cancerous womb had been, to his personal knowledge, performed on the Continent five times. All the patients recovered from the operation," &c. "The womb was removed through the outlet of the pelvis." p. 36.

Since we read Dr. BLUNDELL's recommendations to the new operations, we have been astonished to notice in the Ed. Med. and Surg. Journal, July, 1825, that a German surgeon had actually treated a case of ileus in the manner recommended by Dr. B. It is from Hufeland's Journal of Feb. 1825. After it was ascertained that an immoveable introsusception existed—

"The patient was placed on a convenient table. We examined accurately the situation of the hardening, (*which marked the diseased part*), and determined on opening the abdomen at the outer edge of the right rectus musale, about two inches above the navel. After dividing the integuments with a common scalpel, and making a small opening in the peritoneum, I introduced my finger, and with a blunt pointed scalpel divided the peritoneum, so as to make it correspond with the external opening, which was between two and three inches. I then besmeared my hand with oil, and carried it into the abdomen, in order to feel for the indurated part. Scarcely had I introduced my hand, than an attack of the pain came on, and a portion of the intestines was protruded through the wound, which was immediately replaced by my assistant. On continuing the examination, I discovered in a transverse portion of the ileum, a foreign substance, just where the hardened intestine was to be felt. I drew the intestine out, in order to examine it more minutely. The intestine was neither inflamed nor expanded, but it contained in its cavity a soft coherent and compact mass, which at its upper part was somewhat compressed, and thus felt harder than the rest. So far as I could follow this part of the intestine, this contained matter was to be felt: I also here immediately detected an intus-susception, but in spite of all my efforts I could not reach the commencement of it, so as to bring it out. Two modes of proceeding were open to me, in order to remove the intus-susception; either to make a transverse incision in the integuments, from the right to the left side, or to open the intestine itself. The last mode seemed to me the most adviseable, both because the patient was already very much exhausted, and because the operation would be sooner completed. The intestine was opened at the end of the discovered intus-susceptio, and immediately a part of the strictured intestine came into view. I introduced my finger into the opening in the intestine, which was made about two inches in length, and gradually pushed the intus-suscepted part back from the right to the left side, whilst I gently drew that part of the intestine which contained the intus-susceptio towards me. By this means I fortunately succeeded in unfolding the tangled intestine, which amounted to two feet in length. There was not the slightest trace of inflammation, nor any thing unnatural to be discovered in the part; there was merely a round worm, which was situated in the upper part of the intus-susceptio. The intestine was brought together by means of six spiral stitches, after the manner of the glover's suture, and the end of the silk was allowed to hang out of the external wound in the abdomen."

The sutures were removed on the 8th day. On the 14th day, the man was cured, and continues well up to the date of the account.

ARTICLE XI.—*An Inquiry into the Nature and Treatment of Diabetes, Calculus, and other Affections of the Urinary Organs.* By WILLIAM PROUT, M. D., F. R. S. *From the second London Edition, published in* 1825; *with Notes and Additions*, by S. COLHOUN, M. D. Philadelphia, Towar & Hogan, 1826; pp. 308.

A VERY acceptable service has been done to the medical profession in this country, by the present republication of Dr. PROUT'S work on affections of the urinary organs. The American physician will now have it in his power, at a reasonable cost, to possess one of the best treatises on this interesting subject. From the known accuracy of Dr. PROUT as a chemist, and his reputation as an accurate observer of nature, much new light was naturally expected as the result of his observations. Nor indeed have these high expectations been disappointed. After a careful perusal of his work, we have formed the highest opinion of his powers, both as an original thinker, and experimental inquirer.

Dr. PROUT begins his treatise with some introductory remarks on the composition of the urine, and on urinary derangements generally. After giving a comparative tabular view of the composition of the blood, and healthy and diseased urine, he proceeds to notice in succession, their principal constituents. As albuminous urine is of frequent occurrence in dropsical complaints, and its presence regulates in some degree the practice proper to be pursued, the following characters, given to it by Dr. PROUT, should be well understood.

> "Albuminous urine, on being exposed to a temperature of about 150°, becomes opaque, and deposites this principle in a coagulated state. The precipitate varies considerably in its appearance in different instances. Sometimes it is of a firmer character, and similar to that formed by the serum of the blood, from which, in this case, it may be supposed to be derived; at other times it is very delicate and fragile in its texture, and somewhat resembles curd, when it may be supposed to be of chylous origin. In some instances, the effects of heat upon albuminous urine are increased by the addition of nitric acid. But the most delicate test of albuminous matter in general is dilute acetic acid, and the prussiate of potash." p. 6.

Dr. PROUT combats very successfully the opinion, generally entertained by chemists, that the power of healthy urine to redden litmus depends on the presence of free lithic acid.* That this power cannot depend upon lithic acid uncombined, is made evident to Dr. P. by its sparing solubility; it requiring, according to our author, 10,000 times its weight of water to dissolve it, or six times as much as is stated by Dr. HENRY. The reddening power of the urine is attributed by Dr. PROUT to the presence of lithate of ammonia, and superphosphate of ammonia; the former of which, contrary to what might be expected, is found capable of reddening litmus, and of remaining in solution with the latter, without decomposition.

The following interesting remarks are made by Dr. PROUT on the effects of muriatic acid, in precipitating lithic acid gravel:

> "The muriatic acid, in combination with soda and potash, occurs both in the blood and in the urine; thus appearing to pass through the kidneys unchanged. This acid and its compounds formerly appeared to be of less importance in a pathological point of view than any other similar principles existing in the urine: but since the unexpected fact has been ascertained, that muriatic acid in a free state exists abundantly in the stomachs of animals during the process of digestion, I have attended a little more closely to the appearance of this principle in the urine, and am disposed to believe, in consequence, that it is the cause of the precipitation of lithic acid gravel from the urine more frequently than any other acid. I do not mean to say, that it is the *immediate* cause of the precipitation of this acid; for in most instances, it acts like all powerful acids do under similar circumstances, namely, by liberating the weaker acids, which are thus enabled to act in their turn, and separate those having still weaker affinities than themselves. Thus, in the present instance, the muriatic acid may be supposed to separate the lactic, while the latter precipitates the lithic, &c. If this opinion be well founded, as I believe is the case, the muriatic acid may be considered of very great importance, not only in a pathological, but a physiological point of view; for if the muriatic acid, found in the urine in such instances, be supposed to have its origin in the digestive organs, we see at once the reason why the deposition of gravel is so liable to be influenced by the derangements in general, and more especially by the acidity, of the stomach."
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> "The muriatic acid may be shown to exist in the urine by the white curdy precipitate insoluble in nitric acid, which is formed, when the nitrate of silver is added to it, after the sulphuric and phosphoric acids have been removed by the nitrate of barytes or lead." pp. 20 and 21.

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* The reader will bear in mind, that this acid is the same as the uric, the name by which it is generally known.

After finishing these introductory subjects, Dr. PROUT proceeds to the consideration of the diseases of the urinary organs themselves; which he divides into functional, mechanical, and organic. Under functional diseases, we have *first*, those, in which principles *soluble* in the urine are morbidly deranged in quantity or quality, embracing three chapters; and *secondly*, those affections, in which principles *insoluble* in the urine are morbidly deranged in quantity or quality, comprising six additional chapters. Under the first sub-division, the first chapter is on the affections, characterized by albuminous urine; the second, on diseases, in which an excess of urea is the characteristic symptom; and the third, on diabetes.

The diseased derangement, consisting in an excess of urea in the urine, has not been particularly noticed by any writer before Dr. PROUT, who believes that it has probably been confounded with that form of diabetes, called diabetes *insipidus*. The state of the urine and symptoms in this species of urinary derangement are thus described by our author:

"The average specific gravity of the urine seems to be a little above 1.020, and occasionally to vary from 1.015 to 1.030. Most generally it is pale, but occasionally it is high coloured, and exhibits somewhat the appearance of porter, more or less diluted with water; and this variety in appearance not unfrequently takes place in the urine of the same person. When first voided, it reddens litmus paper. For the most part, it is entirely free from sediment, except the mucous cloud of healthy urine; and the only remarkable property which it appears to possess, is that of containing abundance of urea; so that on the addition of nitric acid, crystallization speedily takes place. From the quantity of urea present, it is very prone to decomposition, and soon becomes alkaline, especially in warm weather.

"There is almost constantly in these diseases, a frequent and urgent desire of passing water both by night and day. This desire is for the most part evidently excited by actual *diuresis*, or the increased quantity of urine; but frequently it cannot be ascribed to this cause, as the quantity voided at one time is often by no means considerable; though in almost every instance that has fallen under my observation, the total quantity voided during any given time has appeared to be greater than natural. The quantity appears also to be particularly liable to be increased by cold weather, and by all causes producing mental agitation. There is sometimes a sense of weight or dull pain in the back, but this is by no means a constant symptom. There is also occasional irritation about the neck of the bladder, which sometimes extends along the urethra. The functions of the skin appear to be natural: at least in every case which has come under my own observation, perspiration has been rather easily induced. The pulse is not affected. There is no remarkable thirst, nor craving for food, except in extreme cases; nor are the functions of the stomach and bowels much deranged. Hence for the most part the tongue is clean, and the dejections regular and apparently natural.

"In most of the cases of this disease, which have hitherto fallen under my own immediate observation, the subjects have been middle-aged men, of thin and spare habit, with a sort of hollow-eyed anxiety of expression in their countenance; free from gout and constitutional disease in general, and, as far as could be ascertained, from any organic defect in the urinary organs. In every instance they had been induced to apply for medical advice, not so much from the pain, as from the inconvenience of the disease, and the dread of its ending in something worse; and, what may be worth remarking, in several instances confessed, that they had been addicted to masturbation from very early youth." p. 41, et seq.

The remedy for this morbid derangement in the urinary secretion, most successful in the hands of Dr. PROUT, was opium, either administered alone, or in conjunction with alkaline medicines. It is rather a rare affection. When not arrested, it is liable, according to Dr. PROUT, to pass into diabetes.

In his chapter on diabetes, our author makes many interesting remarks; but the space we are enabled to devote to this analysis, will permit us only to make an extract, which seems to prove a close connexion between the disease characterized by an excess of urea, and diabetes.

"It has been mentioned in the preceding pages, that an excess of urea frequently precedes the appearance of saccharine matter in the urine. Now it is a remarkable fact, that in diabetes, in proportion as the saccharine matter diminishes, that of urea generally increases; and in such instances, the presence of the former principle can not only be no longer distinguished by the sensible properties of the urine, but scarcely be demonstrated by the utmost skill of the most experienced chemist, though the specific gravity of the urine may at the same time be nearly 1.040. I have recently been favoured by Dr. ELLIOTSON with the most complete and remarkable change of this description that has yet occurred to me. The patient, besides being diabetic, was in the last stage of phthisis, of which he died shortly afterwards. The quantity of urine passed daily, when I first examined it, was six or eight pints; its specific gravity was 1.038, and it contained a large proportion of very white sugar and very little urea. Dr. ELLIOTSON under these circumstances gave opium, beginning with gr. i, and increasing the dose to gr. iii, thrice a day. The opium produced stupor, and was obliged to be discontinued; but the effects produced upon the urine by its means were most remarkable. *In about 60 hours, the quantity of urine was diminished to two pints, its specific gravity was reduced to 1.0174, the saccharine matter had apparently disappeared, and was superseded by urea, the quantity of which had become excessive.* This alternation of a principle containing nearly half its weight of azote, with another containing no azote at all, is, perhaps, one of the most singular facts occurring in physiology." p. 74.

The second subdivision of functional urinary diseases comprises six chapters: *first*, on urinary gravel and calculi; *second*, on the data, showing the comparative prevalency of different forms of urinary deposite, and the order of their succession; *third*, on the lithic acid diathesis in general; *fourth*, on the mulberry or oxalate of lime diathesis; *fifth*, on the cystic oxide diathesis; and *sixth*, on the phosphatic, or earthy diathesis.

Under the first chapter, we have an account of I. Pulverulent, or amorphous sediments; II. Crystallized sediments, or gravel; and III. Solid concretions, or urinary calculi. Of the latter, our author enumerates thirteen species.

1. The lithic acid calculus.
2. The lithate of ammonia calculus.
3. The oxalate of lime, or mulberry calculus.
4. The cystic oxide calculus.
5. The bone earth, or phosphate of lime calculus.
6. The triple phosphate of magnesia-and-ammonia calculus.
7. The calculus, composed of a mixture of the phosphate of lime, and triple phosphate of magnesia-and-ammonia, or fusible calculus.
8. The alternating calculus.
9. The mixed calculus.
10. The carbonate of lime calculus.
11. The xanthic oxide calculus.
12. The fibrinous calculus.
13. The prostate calculus.

Of these, the 2nd, 4th, 5th, 9th, 10th, 11th, 12th, and 13th species are more or less rare, and consequently of less interest. The remaining five are of much more frequent occurrence, and are thus described by our author:

> "*The lithic acid calculus* is generally of a brownish-red, or fawn colour; but occasionally of a colour approaching to that of mahogany. Its surface is commonly smooth, but sometimes finely tuberculated; and upon being cut through, it is usually found to consist of concentric laminæ. Its frac-

ture generally exhibits an imperfectly crystallized texture, sometimes an amorphous or earthy one, in which case, it usually contains a mixture of other substances. This is one of the most common species of calculi.—*Chemical characters.* Before the blow-pipe, this calculus blackens, emits a smoke having a peculiar odour, and is gradually consumed, leaving a minute quantity of white ash, which is generally alkaline. It is completely soluble in caustic potash, and precipitable again by any acid in the form of a white granular powder. Lastly, if to a small particle, a drop of nitric acid be added, and heat applied, the lithic acid is dissolved; and if the solution be evaporated to dryness, the residue assumes a beautiful pink or carmine colour."

"*The oxalate of lime, or mulberry calculus,* is generally of a very dark brown colour, approaching to black. Its surface is very rough and tuberculated (hence the epithet of *mulberry.*) It is usually hard, and when cut through exhibits an imperfectly laminated texture. This species of calculus seldom surpasses the medium size, and is rather common. There is a variety of it remarkably smooth, and pale coloured. These are always of small size: and from their colour and general appearance, have been termed the *hempseed* calculus.—*Chemical characters.* Before the blow-pipe, this species of calculus expands into a kind of white efflorescence, which, when moistened and brought into contact with turmeric paper, stains it red. This white alkaline substance is the caustic lime deprived of its oxalic acid."

"*The triple phosphate of magnesia-and-ammonia calculus* is always nearly white; its surface is commonly uneven, and covered with minute shining crystals. Its texture is not laminated, and it is easily broken and reduced to powder. In some rare instances, however, it is hard and compact, and when broken exhibits a crystallized texture, and is more or less transparent. Calculi composed entirely of the triple phosphate of magnesia-and-ammonia are rare; but specimens, in which this salt constitutes the predominant ingredient, are by no means uncommon.—*Chemical characters.* Before the heat of the blow-pipe, this calculus gives off the odour of ammonia, and at length melts with difficulty. It also gives off ammonia, when treated with caustic potash. It is much more soluble than the preceding species in dilute acids, from which it is again readily precipitated by ammonia in its original crystallized form.

"*The calculus composed of a mixture of the phosphate of lime and triple phosphate of magnesia-and-ammonia, or the fusible calculus,* is commonly whiter and more friable than any other species, resembling sometimes a mass of chalk, and leaving a white dust on the fingers. This species is generally not laminated. Occasionally, however, it separates readily into laminæ, the interstices of which are often studded with sparkling crystals of the triple phosphate. The variety of this species which is not laminated often acquires a very large size, and assumes the form of a spongy friable whitish mass, evidently moulded to the contracted cavity of the bladder in which it has been formed. This species of calculus occurs very frequently. —*Chemical characters.* It may be readily distinguished by the ease with which it melts before the blow-pipe. It also dissolves readily in acids, and particularly in dilute muriatic acid; and if to the solution oxalate of ammonia be added, the lime is precipitated alone, and the magnesia may be afterwards separated by the addition of pure ammonia.

"*The alternating calculus,* as the name imports, may consist of different layers of any of the preceding species. Hence its general appearance, texture, &c. will depend entirely on the composition, and may be very varied. Most commonly it is composed of a lithic acid or mulberry nucleus, and an external crust of the fusible calculus. In some rare instances, it is composed of laminæ of all three of these substances, and sometimes of even more—the mixed phosphates still continuing to constitute the external crust. This species of calculus often acquires a very large size, and is very common.—*Chemical characters.* The chemical characters must of course vary with the composition; and as the different substances of which it is composed must almost certainly be some of the preceding, the nature of the different laminæ can be readily ascertained by what has been already stated." p. 79, et seq.

In the chapter on the comparative prevalency of different forms of urinary deposite, and the order of their succession, we have a number of important facts and observations. Dr. PROUT calculates, from the data collected by him, that about one-third of the urinary calculi which occur, are of the lithic acid species, and that another third are formed on a nucleus of this acid. Hence "we may assert," says he, "that at least *two-thirds* of the whole number of calculi originate from lithic acid; that is to say, if a lithic acid nucleus had not been formed and detained in the bladder, two persons at least out of three, who suffer from calculus, would have never been troubled with that affection. This is a most important fact, and deserves to be constantly borne in mind."

The relative prevalency of the oxalate of lime calculus is very various. The average proportion, as determined by Dr. PROUT, is about one in seven. Of the calculi, examined by Mr. BRANDE, 1 in 25 was of the mulberry species; while in the Norwich and Guy's Hospital collections, the proportion is about 1 in 4. In the Bristol collection, one-sixth of the whole, was composed of oxalate of lime, nearly pure; while, including all the concretions containing more or less of the oxalate, the proportion was nearly *one-half!* This great disparity in the proportional frequency of this calculus in different districts of England, clearly shows the great influence of local causes, in determining the character of urinary concretions.

From a careful observation of the order of deposition of different species of calculous matter, Dr. Prout has been enabled to deduce the following general law; "*that, in urinary calculi, a decided deposition of the mixed phosphates is not followed by other depositions.*" So that it would appear, that a redundancy in the earthy phosphates is the last link in the chain of diseased alterations, to which the urinary secretion is liable.

In the third chapter, under the second subdivision of functional urinary diseases, Dr. Prout describes the lithic acid diathesis, and communicates several important original observations. After remarking that the dyspeptic are particularly predisposed to lithic acid deposites, he enumerates, as exciting causes of this species of gravel, 1st. *Errors in diet;* 2nd. *Unusual or unnatural exercise of the body or mind, particularly after eating, and the want of proper exercise at all other times;* and 3d. *Debilitating causes.* Under errors of diet, an unusually heavy meal, especially of animal food, and the use of heavy, unfermented bread, or compact, hard-boiled, fat dumplings or puddings, salted and dried meats, acescent fruits, malt liquors, and acescent wines, are enumerated as particularly hurtful in the lithic acid diathesis.

The above remarks refer to the amorphous lithic deposites, consisting of lithate of ammonia. In regard to crystallized sediments, or, more properly speaking, gravel, our author makes the following remarks:

"Crystallized sediments, or red gravel, consist of lithic acid, nearly pure. Lithic acid, as has been before stated, exists in a state of combination in healthy urine; and in such a proportion, as to be held in a state of solution at all ordinary temperatures. Sometimes, however, a free acid is generated by the kidneys, which precipitates the lithic acid in the pure crystallized state we see it—a phenomenon easily imitated artificially, as is well known, by the addition of a few drops of any acid to healthy urine. The precipitation of crystallized lithic acid does not, therefore, necessarily indicate an excess of lithic acid in the urine, but the presence only of some free acid in that fluid; though such an excess does, for the most part, exist in this form of disease, as will be shown hereafter. With respect to the nature of the precipitating acid, it is probably not always the same. Most generally it appears to be the *muriatic*, sometimes the *phosphoric* or *sulphuric*, and occasionally other acids. In general, however, it is to be understood, as noticed elsewhere, that when the mineral acids are present in excess, these are not the *immediate* cause of the preternatural acidity in the urine, and consequently of the precipitation of the lithic acid. The stronger acids act by decomposing saline compounds, into which destructible acids, such as the lactic acid, &c. enter, and setting them free. Hence the *immediate* cause of the deposition of lithic acid gravel is generally a destructible acid of very weak powers; even, perhaps, in some instances, the carbonic acid. When the urine contains a free acid, it is commonly more transparent than usual, and of a bright copper colour." p. 112.

The treatment recommended by Dr. Prout in this species of gravel is as follows: First, a strict attention to diet, avoiding the hurtful articles already enumerated. Secondly, the use of *alkaline* remedies; but those must not be depended upon, without the aid of other means, more especially of alteratives and purgatives. Accordingly we are informed that

"The pil. submur. hydrarg. comp., or a pill composed of the pil. hydrarg. and pulv. antimonialis, may be taken twice or thrice a week at bed time, and followed up the next morning by an active dose of the sub-sulphate of magnesia, or a mixture of Rochelle salts and magnesia, or carbonate of soda. A little of either of these compounds may be also taken twice or thrice in the day, so as to keep the urine constantly neutral or alkaline, and the bowels freely open; or gr. x to xx of magnesia may be taken for the same purpose in a glass of soda water, as often as it may be found necessary."

In the chapter on the mulberry, or oxalate of lime diathesis, Dr. Prout gives a number of cases, from which he draws the following conclusions:

"1st. That this form of disease occurs in both sexes; that it may exist before puberty, and at all ages between that and 40 or 50, at which time it seems to occur most frequently; but that no case occurs beyond the age of sixty. Hence that it is probably not a disease of old age.

"2nd. That it is not incompatible with gout, but seems occasionally to be associated with it. I have also seen it connected, as lithic acid frequently is, with a tendency to cutaneous disease.

"3d. That this variety of calculous affection occurs in individuals of sound constitutions, and who ordinarily enjoy good health; and that it rarely occurs a second time, except at long intervals, during which the intermediate health is good; which latter facts, it may be proper to observe, are confirmed by other observers, and particularly by Mr. Brande and Dr. Marcet.

"4th. That the urine is acid, and apparently but slightly deranged in this form of calculus, and remarkably free from all sort of sediment and gravel.

"5th. That as renal calculi of the oxalate of lime often subsequently acquire considerable magnitude in the bladder, it may be inferred, that the formation of this compound is connected with a distinct diathesis, excluding the existence of other diatheses, and that it is not an accidental occurrence, happening in common with many others to the urine.

"6th. That from the dissection of calculi, formerly mentioned, it appears that the oxalate of lime diathesis is preceded and followed by the lithic acid diathesis; a circumstance which seems to be peculiar to these two forms of deposite, and which, when taken in conjunction with the other circumstances, already related, appears to show, that they are of the same general nature; or in other words, that the oxalic acid merely takes place as it were of the lithic acid, and by combining with the lime naturally existing in the urine, forms the concretion in question.

"7th. That the diathesis being of a similar nature, the principles of treatment adapted for counteracting the original tendency to it must be also similar, that is to say, of an antiphlogistic character; great attention being at the same time paid to the digestive and assimilative functions." p. 137, et seq.

The diagnostic signs of the oxalate of lime diathesis are very obscure, as will appear from the following extract:

"With respect to the means of determining when this diathesis is going on in the system, I am sorry that I can give but little positive information. The absence of urinary sediment, &c. are of a negative character, and lead to no inference, where other circumstances are wanting, as is most generally the case. But if there be pain in the region of the kidney, and other symptoms of gravel, without any appearance of sediment; and if the urine be acid, and of the yellow tint above alluded to, the stomach deranged, and an inflammatory diathesis, either general or local (i. e. about the urinary organs), be present; and if all these are associated with suppressed gout, or tendency to cutaneous disease,—the existence of this form of the disease may be suspected, and means immediately taken to counteract it." p. 138.

We omit any analysis of the next chapter on the cystic oxide diathesis, on account of the rare occurrence of this state of the system.

The next chapter of our author is on the phosphatic, or earthy diathesis.

The phosphatic deposites are of two kinds; the *crystallized*, consisting almost invariably of the triple phosphate of magnesia-and-ammonia, and exhibiting the appearance of white, shining crystals; and the *amorphous*, consisting always of a mixture of the phosphate of lime, and the triple phosphate of magnesia-and-ammonia.

The causes, apt to produce a deposition of the triple phosphate of magnesia-and-ammonia, are thus enumerated by Dr. PROUT:

> "Any thing acting generally, and producing *a nervous state of the system*, such as the distressing passions, and particularly *mental anxiety* or *fear*, will frequently produce in many people an excess of this salt in the urine. The same is also true of many articles of food or medicine that produce a hurried secretion of the urine, and act as diuretics; as the neutral salts in some cases, and particularly the Rochelle salts and other saline compounds, in which the acid is of vegetable origin. So also, a long continued use of alkaline remedies, or of mercury, in irritable habits more especially, will likewise produce a tendency to an excess of this salt, as well as of the phosphates in general, and even lead to an actual deposition of them from the urine. The same sediment also frequently abounds, or is easily induced in the urine of those who have long been in bad health, and in whom the constitution may be considered as giving way, or, to use a common expression, breaking up. In general, it is to be understood, that the slighter causes affect only the predisposed, and those in particular who are subject to other diseases of the urinary organs or urine. It may be also remarked, that children are more subject to this form of deposition than adults; a circumstance, perhaps, to be referred to the irritability of the system at this age, and the great derangement of the digestive organs, to which they are subject." p. 151.

The above mentioned causes are stated to be equally productive of amorphous phosphatic sediments.

Our author next enumerates the very distressing symptoms, by which the deposition of the earthy phosphates is attended. They consist in great irritability; derangement of the chylopoietic viscera, evinced by flatulency, nausea, obstinate costiveness, or peculiarly debilitating diarrhœa; extremely unnatural stools, nearly black, or clay-coloured, and sometimes resembling yest; pain, uneasiness, or weakness in the back or loins; sallow, haggard expression of countenance; and finally, if the disease be not arrested, great languor and depression of spirits, coldness of the legs, and complete anaphrodisia, as occur in diabetes.

A curious and important fact has been stated in regard to the remote causes, producing the phosphatic state of the urine. It has been observed by Dr. PROUT, that a large proportion of cases of this complaint may be traced *to some injury of the back* from mechanical violence, such as a fall from a horse, &c.

The remedies for this diseased state of the urine, found most successful by Dr. PROUT, are,—opium, in from one to five grain doses, repeated two or three times a day, until the unnatural irritability of the system is relieved,—the same remedy in more moderate doses, in conjunction with the mineral acids, cinchona, uva ursi, and the different preparations of iron,—a large pitch, soap, or galbanum plaster to the loins,—and setons or issues in the back, when the disease manifestly arises from local injury. With respect to the bowels, Dr. PROUT remarks, that they are very difficult to regulate. He has occasionally seen serious consequences to arise from the exhibition of a small dose of calomel, such as diarrhœa and debility, much aggravating the disease, and endangering the life of the patient. For the regulation of the bowels, small doses of castor oil, and laxative injections are most to be relied on; while saline purgatives, more especially Rochelle salt and Seidlitz powders, as containing vegetable and therefore destructible acid, must be avoided.* Mercury, in all its forms, is also inadmissible.

> "Alkaline remedies of every description, must be most carefully avoided, their use in every point of view being most mischievous when the phosphates are concerned. Indeed all remedies that act as diuretics should, in general, be shunned, and the patient should be prohibited from drinking too much. With respect to drinks, in general, they should be of a soothing, demulcent character, and prepared with distilled or the softest water that can be procured; as hard waters are literally poison in this form of disease."

The second division of the work under review treats of the mechanical and organic diseases of the urinary organs. This portion of the subject is handled with the same ability as the first. We regret, however, that our space will not permit a further development of the author's views. We trust, nevertheless, that we have imparted to our readers adequate notions of the scope of the work, to render them sensible of its value as a manual of urinary diseases. It is illustrated by a good coloured plate, representing the principal varieties of urinary calculi.

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* The reason of this exclusion of salts, containing a vegetable acid is, that they become real alkalies in the course of assimilation by the destruction of their acid, and therefore add alkaline properties to the urine, already too alkaline.

The additions of Dr. COLHOUN consist of foot notes, and paragraphs inserted in the text of the original work. We would not, however, wish to be considered as approving of the course, for the most part pursued by Dr. C., of inserting his amplifications in the text of the author, merely distinguished by brackets. Besides the absence of sufficient distinction between the matter of the author and commentator, the text of the former is thus injuriously disjointed, and dependent sentences sometimes widely separated.

In regard to the execution of the present edition, we regret to say that it is wanting in typographical accuracy.

MEDICAL LITERATURE.

Article XII.—Retrospective Review.—*Tractatus de Ventriculo et Intestinis, cui præmittitur alius, de Partibus continentibus in Genere, et in Specie de iis Abdominis. Authore* Francisco Glissonio, &c. &c. Lond. 1677, 4to.

As it is not our intention to confine our remarks to the work above mentioned, we shall deem no apology necessary for the somewhat excursive nature of this article, which would not answer our present purpose, if we were obliged to follow the costive details of the venerable Francis Glisson, whose villanous bad style, and execrable latin, are only to be excused or overlooked in consideration of the great importance of the topics which he handles, and the profound reflections which he makes on them. Glisson is recognised as author of the physiological term *Irritability*, and as the assertor of the inherent activity of matter. Haller says of him in his XIth book, "Franciscus Glisson, qui universis elementis corporum, vim motricem tribuit, etiam nostram vim, Irritabilitatem vocavit," &c.

He was a native of Dorsetshire, and was appointed professor of physic at Oxford in 1627. This post he occupied during forty years, and is much distinguished by his treatise de vita naturæ, and by the work which forms our caption. As he is the first who used the physiological term Irritability, we have thought that some researches on this subject in general, and more particularly on his peculiar sentiments, might profitably occupy our retrospective department; for it is very evident that this subject is in general but vaguely discussed, both in medical writings and conversation.

The ancient philosophers did not agree among themselves as to the nature and origin of matter; some of them considering it as eternal in its essence, and others as mutable and changeable in form. The theory of atoms, published by Democritus, and subsequently carried out so elaborately by Epicurus and his disciples, seems to have reached even to our own times, with an increasing reputation and acceptance. According to this theory, the kinds of matter, or elements, must be regarded as infinitely various. Heraclitus, who taught philosophy about 550 years before Christ, considered all things as derived from an elemental heat or fire;[*] a philosophy which seems to us to have formed the basis of the Hippocratic doctrines of life. Like Heraclitus, Hippocrates tells us, that the calidum was the first principle of things, and that by an expansion or extension of itself, it constitutes all the objects of the material world. He expresses himself in the following manner. That which we call warmth, or heat, seems to me to be something immortal; something which comprehends all things, which sees and knows all things, as well present as future. Thus assuming as a basis, that the calidum is an almighty, all-wise being, or in other words, a God, all in all, the cosmogony was developed as follows: Chaos he regarded as that condition of the calidum, which preceded any exertion of the Almighty faculties. In emerging from the chaotic state, the greatest part of the heat having assumed the uppermost place, formed the æther; another part having gained the lowermost place, constituted earth; a third portion, midway between earth and æther, became air; and a fourth part, establishing itself between the two latter, became water. So that by means of the extension of this all-wise, elemental calidum, we have the four elements, earth, air, fire, and water, out of which are ultimately composed all the aggregates of the material world.[†] Now, to apply this general principle to the formation of the living being man, who seems to be a sort of microcosm in himself, we are told, that that portion of heat which remained with earth, being expanded and spread abroad in divers places, in some more, in others less, the earth became dry, and something like membrane or pellicle was formed; the matters contained in which, being heated as by a sort of putrefaction, some parts became bone, some nerve, some veins and their contents, and some formed the cavities and their contents, as the urinary bladder, for example.[*]

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[*] Hæc ei generatim videbantur, ex igne omnia constare eodemque interire. Diogenes Laertius.

[†] Quatuor æternus genitalia corpora mundus
Continet; ex illis duo sunt onerosa, suoque
Pondere in inferius, tellus atque unda, feruntur,
Et totidem gravitate carent, nulloque premente
Alta petunt, aer atque aere purior ignis.—Ovid—*Metamorph.*

The full exposition of the opinions of Hippocrates was left for Galen, and we prefer to make reference to him on this theory, which by his genius and talent was so much embellished, that it became the glory of science, exercising an almost undisputed authority during a long lapse of ages. Indeed the gigantic intellect of this great man, still continues to shed its vast illumination over the world of science, particularly that of medicine; which, if it owes its birth to the divine old man of Cos, is not less indebted for its nurture and growth to the celebrated native of Pergamus. Galen is the facile princeps of physicians. His astonishing industry, perseverance, and acquirements, his ingenious arguments, and persuasive eloquence, give him an unquestionable claim to the title of princeps, so long accorded to him; and those who even in the present enlightened period, will study his works, shall find themselves almost irresistibly led away by the charm of his suasion.

Galien est le seul des anciens qui ait donné un corps complet de medecine: Quoique formé des débris de toutes les doctrines précédentes, son systeme offre cependant, malgré les contradictions ou il tombe assez souvent, une unité remarquable dans toutes ses parties; un ensemble séduisant, qu'un genie de l'ordre le plus élevé pouvoit seul imprimer à un pareil édifice. Ramenant tout à un petit nombre de principes généraux, qui s'ils ne peuvent satisfaire la raison, fournissent du moins une réponse facile a tout, ce système dut être adopté avec empressement, et sa fortune ne peut étonner.—*Biographie Medicale*, *Tom. IV.*

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[*] Lib. de Carnibus, Hippocrates says: Quod Calidum vocamus, id mihi immortale esse videtur, cunctaque intelligere, videre et audire, sentireque omnia, tum præsentia tum futura: cujus pars maxima cum omnia perturbata essent in supremum ambitum secessit; quod, mihi veteres æthera appellasse videntur. Altera pars locum infimum sortita, terra quidem appellatur, frigida et sicca multas que motiones habens, et in qua multum sane calidi inest. Tertia vero pars medium aeris locum nacta est, calidum quid existens. Quarta pars terræ proximum locum obtinens humidissima et crassissima. His igitur in orbem agitatis cum turbata essent, calidi magna pars alias in terra relicta est, partim quidem magna, partim vero minor, alias etiam valde parva, sed in multas partes divisa. Et temporis successu a calido resiccata est terra, ista in ea tanquam in membranis contenta circumse putredines excitant, ac longo tempore incalescens quod quidem ea terræ putredine pinguedinem sortitum est et minimum humidi habet, id citissime exustum ossa produxit. Quæ vero naturam glutinosiorem sortita sunt et frigidi communionem habent, ea neque calefacta exuri potuerunt, neque etiam humida fieri ideo formam longe ab aliis diversam nacta sunt et nervi solidi extiterint, cum non multum in iis frigidi inesset. At venæ frigidi multum habebant cujus pars circumcirca ambiens et quod erat glutinosissimum, a calido exassatum membrana extitit. Quod vero erat frigidum, a calido superatum, dissolutum est ideoque humidum evasit.

Galen may perhaps be justly regarded as an eclectic; but it is manifest, that he mainly walked after the steps of his great predecessor, and recognised model. The following passage seems to contain ideas not much differing from those of Hippocrates which we have presented above: "Who is there, says he, that judging from the origin and constitution of animated beings, doth not immediately infer the existence of a mind, possessed of wonderful energies, extending to, and pervading every portion of the universe! We every where perceive animals procreated, which are possessed of the most admirable structure, and yet what portion of the universe can be more ignoble than this earth of ours? Yet a grand intelligence is seen to have reached even it from the celestial bodies, which for their beauty are so astonishing, and which, as they are for purity far more excellent than our earth, so they are the seats of intelligences, far more pure and perfect than those which inhabit these lower regions." He proceeds to remark, that animals, worthy of the greatest admiration, are produced out of the slime and mud of ponds and ditches, and even in putrefying vegetables, which, as they indicate the miraculous properties of their author, also show us in what estimation we should hold the higher orders of being. "We may even perceive a rational nature in men, if we refer to such examples as Plato, Aristotle, Hipparchus, Archimedes, and many others. If, therefore, in such a colluvies as the human body, (for by what better name can we characterize a mixture of blood, bile, and phlegm,) a mind is formed of such great and excellent faculties, what must we think of the excellence of that which exists in the superior bodies?"

It may be said that Galen expresses, in these passages, the Platonic dogma of an *anima mundi.* But they certainly agree with the sentiments of Hippocrates; and whether he derived them from the former or the latter, matters not, as both of them have invested matter with certain qualities, which render it active, whether it be so essentially or by the act of the Creator. Galen may be also regarded as partially an Epicurean; for he insists that there are several sorts of matter, or as we should say, several elements; but he differs from that sect again in affirming for it a passible quality. To show that there must be more than one element, or kind of matter, he says, that if there was only one element, or a unit, it would be impassible; it could undergo no change whatever. For there would be nothing by which it could be made to suffer any alteration, or into which it could be altered. Whatever is changed, is changed into something else, and whatever suffers, suffers from something extrinsic: therefore he affirms, that of necessity there must be several sorts of matter, or elements. He says, "there are only two theories on this subject deserving our attention; one of which affirms that sentient bodies are composed of elements possessing the faculty, (cum patiendi tum sentiendi,) both of suffering and perceiving an alteration;" while the other affirms that such bodies are formed (ex patibilibus, sed sensu expertibus) out of passible, but not sentient elements. Neither of these doctrines does he consider tenable, so long as only one element is affirmed, as earth, air, or fire alone, which could never become capable of that great variety of actions we witness in living bodies: but, admit several elements, and we suppose that the mutual interchange of powers would yield a compound body, capable of all the vital phenomena. Such, therefore, says he, as consider the human body to be composed of fire, air, earth, and water, mutually transmuted, alternated, and reduced to a given temperament, and thereby vested with a sentient faculty, speak reasonably; and it is evident that there must be more than one element, and that these elements are passible bodies.

Plato had taught, that, though all bodies are formed of matter, yet matter itself is not a body; and the same idea is conveyed by Aristotle, in the Lib. de partibus animal. & earum causis, II c. i. "Prima statui potest ea quæ ex primordiis conficitur, iis quæ nonnulli elementa appellant terram dico, aquam aërem & ignem: sed melius fortasse dici potest ex virtutibus confici elementorum, iisque non omnibus sed ut ante expositum est humiditas enim, & siccitas, & caliditas, and frigiditas, materia sunt corporum compositorum."

Galen also states, that in fire there exists a perfect heat and dryness, in earth a perfect coldness and dryness, and so on of the rest of the elements. For you cannot expect to find in nature a perfectly simple and isolated element; because they are always mixed two or more together. Hence the real terram, aquam, aërem, and ignem, become rather a metaphysical abstraction, than a real entity. That is to say, matter has no real existence, but is mere quality; for earth is not the mere representation of dry or siccum; it is the representative of siccitas, or dryness: fire is not the eidolon of calidum, but of caliditas; water of humiditas, and air of frigiditas. Yet all these elements are in nature possessed of more than one property. Fire is hot and dry, earth is dry and cold, water is cold and moist, &c. If we refer, however, to his account of the soul, we perceive at once, that these inseparable qualities of the elements are the real active agents of life. He plainly declares, that the soul is the mere result of organizatiôn, and perishes with the structure in which it dwells. He thinks, "corporis temperiem censendum est." As to the active powers of the four primary qualities, he says, "At mihi quidem tam venæ, quam reliquarum particularum singulæ, ob certam quandam temperiem quam ex quatuor sunt qualitatibus nactæ, hoc vel illo modo videntur agere."—De nat. fac. I.

It is plain he thinks, that the elements consist of a materia and qualitas; but they are elemental by the *qualitas* and not by the *materia*.

After establishing that there are four elements, which are the common and simple bases of all things, he goes on to show, that the proper proportion and admixture of these, constitute the healthy state of living bodies. If the calidum, for example, be unduly increased, the body is destroyed; if it be improperly diminished by excess of the frigidum, it will also perish. The business of the physician is to keep the proportions just and harmonious; but, as no pure element exists alone, the physician must employ the qualitas in conjunction with the materia. These (to make a phrase) substantive qualities, are found in medicines or food, which, like all objects of sense, are either cold, hot, dry, or moist, and available of course in the management of a cold, hot, dry, or moist derangement of the living body.

The elements of the human body exist in the four humours, blood, bile, atrabilis, and pituita; and these four humours correspond in quality with the elements. Blood, which is the reservoir or continent of them all, is a temperate humour. Bile, being the representative of calidum, is hot and dry. Melancholy represents, in our microcosm, the element earth or siccum, and is dry and cold. But pituita, which is moist and cold, corresponds with the humidum element. Air exists in animals nearly pure, as we learn from the phenomena of the pulse and of respiration. It answers to frigidum.

He shows us in his lib. de naturalib. facultat. that, out of the humours, all the parts are formed, and these parts are either *similar* or *dissimilar;* i. e. simple or compound. Bone is a similar part, that is, it is a simple part; so is an artery, or vein, or ligament. Each of these is so constituted, as that it has a predominance of one element in its nature; and it is therefore dry, or cold, or moist, &c. But if an adust element be, by accident or disease, accumulated in a part naturally cold, the function of such part is morbidly affected. The natural tendency, however, of similar humours to unite, causes each part to receive its regular supply; a principle which BICHAT has since characterized as, *contractilité organique insensible.*

To show the wonderful simplicity of the Galenical system, which for plainness and easy attainment may be compared with the improved nomenclature of chemistry, we will cite a passage from ARGENTERIUS, who, perhaps, was as learned in this kind of lore as any man of his time. In his Tractatio de calidi significationibus, he says; "If any body would undertake to give a general enumeration of those circumstances, in which this term calidum and the others (frigidum, humidum, &c.) are applicable to the explanation of this warmth, he shall find truly, that they are the elements, the humours, the parts, the whole body, medicines, food, air, climate, the weather, the season of the year, and even ages; for these all are either temperate, or hot, or cold, or humid, or dry."

The animal body is moved and governed by two principles; one of them corresponds to the *vie animale* of BICHAT, and the other to the *vie organique.* Since the power of sensation and of voluntary or elective motion, says he, is a property of animals, and since that of growth and nutrition is common both to animals and plants; the former may be called attributes of the soul, and the latter attributes of nature. Whence we say, that animals are governed by the soul and by nature, while plants are governed by nature alone.

The powers of the body are faculties; and these are either natural, vital, or animal: but they are so subdivided, that we have as many faculties as there are sorts of action. Under the class of of natural faculties, we find three principal sorts; to wit, a facultas generatrix, an auctrix, and a nutrix. But if you ask, says GALEN, how many faculties there be, which result from the action of these on each other, you will find them as numerous and diverse as there are numbers and diversities of the animal parts. For example, we have an attractrix faculty, a retentrix, alteratrix, expultrix, &c. &c., all of which are variously modified, according to the nature of the similar or dissimilar parts they are exercised in, or, in other words, according to the nature of the tissues or organs, in which they reside.

Need we go further to show, that GALEN, believing all matter essentially conjoined with the hypothetical caliditas, frigiditas, &c. &c., taught that it was gifted with such a degree of inherent activity, as to render it capable under certain states of combination, of exhibiting all the phenomena of organic and animal life? It is certain that he regarded these active qualities, as the causes of all the phenomena, whether of living or dead matter.—GLISSON ought not certainly then to be regarded as the author of this dogma in medical philosophy. PLATO certainly taught it. VAN HELMONT could not get along without investing matter with what he called a "seminal likeness, which is the more inward spiritual kernel of the seed," &c. But we will let him speak for himself. "Whatsoever," says V. H., "cometh into the world, must needs have the beginning of its motions, the stirrer up and inward director of generation. Therefore all things, however hard and thick they are, yet before that their soundness, they inclose in themselves an air, which representeth the inward future generation to the seed in this respect fruitful, and accompanies the thing generated, even to the end of the stage: which air, although it be in some things more plentiful, yet, in vegetables it is pressed together in the show of a juice, as also in metals it is thickened with a most thick homogeneity or sameliness of kind. Notwithstanding this gift hath happened to all things, which is called *archeus*, or chief workman, containing the fruitfulness of generations or seeds, as it were the internal efficient cause; I say that workman hath the likeness of the thing generated, unto the beginning whereof, he composeth the appointments of things to be done. But the chief workman consists of the *conjoining of the vital air*, as of the matter, with the seminal likeness, which is the more outward spiritual kernel, containing the fruitfulness of the seed; but the visible seed is only the husk of this. This image of the master workman, issuing out of the first shape or idea of its predecessor, or snatching the same to itself out of the cup or bosom of outward things, is not a certain dead image, but made famous by a full knowledge, and adorned with necessary powers of things to be done in its appointment; and so it is the first or chief instrument of life and feeling. But since every corporeal act is limited into a body, hence it comes to pass, that the archeus, the workman and governor of generations, doth clothe himself presently with a bodily clothing. For in things soulified, he walketh thorow all the dens and retiring places of his seed, and begins to transform the matter according to the perfect act of his own image; for here he placeth the heart, but there appointeth the brain, and he every where limiteth an unmoveable chief dweller, out of his whole monarchy, according to the bounds of requirance of the parts and appointments. At length that president remaineth the overseer and inward ruler of the bounds, even until death; but the other, floating about and being assigned to no member, keeps the oversight over the particular pilots of the members, being clear and never at rest or keeping holiday."

Notwithstanding the affected and euphuistic jargon of the above passages, it is evident that Van Helmont's idea is very similar to that of Galen. By seminal likeness, we are to understand an aptitude in matter to take on certain determinate forms, and this may be supposed to differ not very essentially from those laws, which govern matter in crystallization. But even this seminal likeness, as we perceive, is a sort of abstraction, very analogous to the Galenical caliditas; for it is the more inward spiritual kernel of the seed, whereby the matter is enabled to enjoy a certain degree of activity, the degree of which is much increased by the union of the air, or archeus, with it. So the caliditas of Galen, which, after all, is matter, gives to its subject the powers which it enjoys. Glisson, speaking of the natura seminalis, says that it is a certain or specific essence, superadded to mere elementary principles, by means of which mixt bodies adopt certain determinate forms, and acquire the faculty of performing essential operations, more noble than those which belong to naked elements.

We regret very much that we have been unable to procure a copy of Glisson's treatise de vita naturæ, which, so far as we know, can not be had in this country. We shall, therefore, furnish our readers with the following passage from the Biographie Medicale, from the pen of Jourdain.

" The name of Glisson occupies an honourable place in the history of medicine, because to him we are indebted for the first elements of the physiological doctrine of the present day. Instead of directing his attention to movements alone, as the iatro-mathematicians, and even, to a certain extent, the animists had done, he referred to vitality all the phenomena of nature, of whatever kind, and attempted to reduce them to one common principle. To this end he admitted, that matter is originally endued with forces inherent in it, and that living bodies in particular, are invested in their organs with a radical force, which, put in play by stimulants, whether internal or external, gives rise to all the phenomena of life. He even went so far as to assert, that sympathy may be explained by referring to the intercommunication of this force, to which he gave the name of irritability."

We shall also cite from Sprengel, a passage which throws some light on his theory.

" When they became unwilling, like Descartes and Stahl, to have constant recourse in their explanations, to the soul, they tried to find a philosophic proof of the existence of material forces, to show that matter, as mere matter, is endowed with particular forces, with which they might satisfactorily explain a great many of its phenomena. No one had hitherto sought for a similar proof; for Aristotle had contented himself with an axiom, that all natural things contain in themselves the sufficient cause of their movement and rest. Glisson and Leibnitz set themselves in search of this proof: but it was reserved for the immortal Kant to find it in the nature of matter itself.

" Francis Glisson may with propriety be considered as the precursor of Leibnitz. What he tried to demonstrate by scholastic subtlety, and by thousands of syllogisms, was developed by

LEIBNITZ with a clearness and ability, which secured the suffrages, even of the unenlightened. Both of them went too far, in attributing life and sensation to matter, instead of claiming for it the two simple and primordial forces of attraction and repulsion.

"GLISSON sets out with the idea of substance, but he does not explain it with sufficient precision. Every substance has three substantial rudiments,—*fundamental* substance, by means of which it exists,—*energetic* substance, by means of which it acts,—and *additional* substance, which determines its accidental qualities. All matter, as substance, must have an energetic substance or nature, which is the internal principle of movement. Therefore whatever moves spontaneously, and in virtue of an internal force, must *feel* this motion, *and desire it*. All matter feels that it is, and that it exists by itself. It has therefore, consciousness of its own nature. Life consists in the activity of the internal substantial energetic nature. Death is the dissolution of the triple alliance of the internal energetic substantial nature, with the vegetative and animal natures, which two last belong to the *additional* substance."*

In applying his theory to physiology, GLISSON's idea is, that the fibres of the human body are endowed with a force, which he divides into three kinds; to wit, natural or inherent force, (robur insitum)—vital force, (robur vitale)—and animal force, (robur animale.)

Natural or inherent force, is a part of the constitution of the fibre, and is as much a property of its organization as are its tenacity, tensibility, &c. The sum of this force varies, in proportion as the constitution of the fibre is more or less perfect. It is strongest in athletic men and strong animals, and weaker in relaxed and debilitated persons. It may be compared with the contractilité de tissu of BICHAT.

The second, or vital force, is something superadded to the inherent sort. It is an *influxus*, derived to any fibre or set of fibres, from that greater sum of force, which arises out of a more elaborate, complex, and exalted organization. It varies in proportion as the vital spirits flow with more or less freedom; and in proportion as their quality is more or less perfect.

The third kind, or robur animale, may be supposed to depend on the organic constitution of the brain and nerves, and varies according to the state of that organization. We cannot help adverting to the resemblance between these two latter kinds, and the contractilité organique, and contractilité animale, of BICHAT; and this robur comprises, as we shall show hereafter, both the contractilité and sensibilité of the French physiologist.

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* K. SPRENGEL. Hist. de la Medicine.

GLISSON, in his chapter de Irritabilitate fibrarum, commences by remarking that a motive faculty existing in any fibre, unless it were of an irritable nature, would leave such fibre in one of the two following states: 1. It would either never cease from action, or 2ndly, being once at rest, its motion could never be reproduced; but the varieties and differences which we see in the actions of fibres, clearly demonstrate them to be possessed of irritability: i. e. if a fibre may be by turns in a state of action and repose, it is evidently possessed of a quality, whereby it can be induced to move if in a state of rest; this quality he terms irritable, or irritability. The next inference from this power of alternate activity and repose is, that the fibre is possessed of a faculty, whereby it can *perceive* an irritation offered to it; but this perception of irritation further implies an *appetence* for a change of its actual state, before the motion can really take place. Perception, appetence, and motion, make a triunit. "In the mean time, says he, as sensitive appetence, and sensibility, are frequently confounded with natural perception, in this irritation of the fibres," he divides it into three kinds, viz. Natural Perception, Sensitive Perception, and Perception regulated by animal appetency.

Natural Perception is that principle whereby a fibre perceiving any alteration offered to it, whether pleasing or displeasing, is excited either to accept that change, or to avoid it, and moves accordingly.

Sensitive Perception, is that kind, in which a fibre, perceiving a change effected in some other organ, is impelled ad aliquid appetendum, and to move conformably.

The third sort, or Perception regulated by animal appetency, is that in which the brain directs from within, such movements of the muscular fibres, as are requisite for the execution of any purpose.

"Some persons," says GLISSON, "may doubt whether there really exists a natural perception of irritation in the fibres; but we have elsewhere asserted in general the reality of natural perception, to wit, in my work, de Vita Naturæ; and whoever has known it, will readily admit this quality in fibres imbued with inherent, influent, and vital spirits. We do not expect, in this place, to establish it as a general principle; but if any proof, derived from a knowledge of the structure, uses, and actions of the fibres, can be adduced, it may be here attempted."

"It is indubitable that the fibres are alternately at rest and in motion; for, during sleep, they are all relaxed, with the exception of such as subserve the functions of respiration and circulation, and even these are by turns quiet and active. During waking again, they are all in a state of moderate tonic motion; and moreover, during all movements of the limbs, the antagonist muscles yield spontaneously, the abductors being active, while the adductors are relaxed, and vice versa. Hence it is manifest, that the fibres are alternately quiescent and active: but, since they are not *principal* or sui arbitrii agents, it is necessary, in order to the new movement, that they should be irritated from some source: for, it is impossible that a fibre in repose, can be set in action without an irritating cause; nor can we conceive of a part being irritated without *perceiving* the irritation. It is like speaking to a deaf man, or trying to awaken a dead one."

"If you say, fibres are possessed of sensibility, and can be excited by virtue thereof, I confess that they are sensible parts, and may thereby perceive some, not all irritating causes; but whether sensation excites them immediately, or rather, is transmitted to the brain, and irritates the animal appetency; and further, whether the animal appetence effects a movement in them directly, and to what sort of perception this irritation may be properly and immediately ascribed, is detailed in order below, when we come to explain sensitive perception, and perception à phantasia imperata."

"Let us now go on to point out those cases, in which no suspicion of *sensation* can be entertained. The pulsation of the heart is neither effected nor affected by sensation; its fibres, in virtue of the irritation occasioned by the blood in its ventricles, are excited to contract, and thus occasion the pulsation, but when the irritation is remitted they relax, and recover the natural state. Now it cannot be denied that this is an evident case of irritation of the fibres, for according as is the irritation, so is the rythm of the pulsation, which varies at times, as in febrile and other affections: nor is it right to pretend that there is any sensation in this case; because this perception of irritation *per vices*, is exercised as well during sleep, when the senses are all locked up, as in the waking condition. The fibres do not, therefore, *perceive* in these actions by a sensitive, *but by a natural perception*, the irritation of the vital blood, which animates them to alternate contraction and relaxation. This is corroborated by those tumultuous irregular motions which continue in animals after decapitation; so also the intestines when still warm in a recently opened animal, move and twist about; the muscles in dead animals also, excited by the perception of cold, contract with a strong tonic movement, and render the body rigid. The hearts of some animals too, when torn out of the body, and even when dissected, continue their endeavours to pulsate. Is there any further evidence wanting? We may hence infer with sufficient confidence that the fibres (without the aid of the senses) may *perceive* irritation, and move themselves conformably."

In the next place he examines the nature of sensitive perception of fibres, and goes on to show how an impression made on an external part, or a natural perception, becomes converted into sensation, and thus made known to the sensorium. But his disquisition is not only very long but very dark, and we shall therefore pass it by with the exception of the following.

"Natural perception includes within itself a *rationem positivam*, and a *negationem formalem*.

"The ratio positiva is the perception of the idea, or image of the object moving or changing the fibre.

"The negatio formalis is a denial or refusal to communicate this image to the sensorium. In the process of transformation into sensation, the positive ratio is not changed, but remains the same, and is the first part, or basis, both of internal and external sensation.

"The negatio formalis is destroyed or abolished in any case of impression communicated to the sensorium. Natural perception, in its ratio positiva, is not abolished or degraded by being converted into sensation, but is rather exalted, or gifted with a more dignified nature. By as much as public or general knowledge is preferable to private, or public advantage to that of an individual, by so much is sensation preferable to natural perception. Hence nature formed so many organs of sense, that the phantasy might have notice of what ought to be done, desired, or avoided."

He does not doubt that external sensibility is inherent in the nervous parts of the external organ, whence he infers that it may readily incite the fibres of such organ ad appetendum et movendum; for, as external sensation is communicated to the brain by means of the nerves, it must of necessity be true, that these nerves and nervous parts (such as the fibres,) are the subjects of it. Since then sensibility causes its subject to feel, it consequently enables it to desire and move conformably. For perception in any subject is vain, unless it can desire, and appetence is useless, unless it can move. External sensibility, therefore, may be said to render the fibres *actu irritabiles*, for example, as often as the irritating cause is perceived; but as the irritation is perceived, not by a sensibility, but by a mere natural perception, this it is which constitutes their irritability.

Thus we may perceive that the triunit consisting of perception, appetence, and motion, constitutes the celebrated irritability of our author. But he has been too latitudinarian in his application of the theory; for he did not limit it, as HALLER has subsequently done, to one sort of fibres, or indeed to fibres alone, for he says in cap. IX., "It is to be remarked that natural perception belongs to other parts of the body besides fibres; to wit, to the parenchymata, bones, marrow, fat, blood, recrementitious juices, humours of the eye, and such like, all which are irritable, and increase the irritable constitution of the parts, but these parts hardly admit of the existence of animal perception." HALLER blames GLISSON for having gone so far in his application of the theory, and it is well known that he himself restrained it to the single tissue of muscular fibres, and denominated it vis insitum, or inherent force; whereby he distinguished it from his vis mortua or elastic contraction, on the one hand, and the vis nervosum or voluntary power, on the other; the former being something less, and the latter something more than irritability. GLISSON's theory, when fully explained, which we cannot for want of space do here, will be found to bear a very strong resemblance, in many points, to that of BICHAT, who has invested the matters of the body with vital powers, far beyond those attributed by HALLER; and as we are not furnished in the present article with sufficient space, we hope in some subsequent number, to place this matter in a plainer light before our readers. In the mean time we may remark, that GLISSON seems to be the first of those who have placed the subject fairly before the medical public; for although faint traces of a similar theory may be perceived before him, especially by translating terms into their equivalents, yet he has the merit of using a term which, in spite of all subsequent modifications, is in daily use.

GLISSON'S latitudinarianism may be contrasted with HALLER'S rigid application: for the latter says, "I call that an irritable part of the human body, which on being touched by a foreign body, renders itself shorter;" thus while GLISSON attributes his triunit of perception, appetence, and motion to all the tissues and fluids, HALLER confines it to muscular fibre alone. No one can doubt that the membranes of the body are endowed with vital properties, but yet they do not shorten themselves on being touched by a foreign body. BICHAT has distinguished their vitality as organic vitality, and the contractile qualities displayed are divided into insensible organic contractility, and into contractility of tissue: but these sorts of contractility mount up by insensible gradations. He says, that "entre la contractilité obscure mais réelle, necessaire a la nutrition des ongles, des poils, &c. et celle que nous presentent les mouvements des intestins, de l'estomac, &c. il est des nuances infinies, qui servent de transition: tels sont les mouvements du dartos, des arteres, de certaines parties de l'organ cutané," &c. We will close with a comparison between GLISSON'S irritability, and BICHAT'S contractility. At page 70 of the Treatise *sur la Vie & la Mort*, BICHAT supposes that a "muscle enters into action, 1st. by the influence of the nerves which it receives from the brain, and this is a case of contractilité animale," (which differs in no respect from perception regulated by animal appetency of GLISSON). 2ndly. According to BICHAT the muscle enters into action "by the excitation of a chemical or physical stimulant applied to it, and which artificially determines a movement of the whole muscle, analogous to what is natural in the heart, and other involuntary muscles. This is sensible organic contractility or irritability," and corresponds to the sensitive perception of the old English physiologist. In the 3d place it enters into action by the stimulus of the fluids which circulate in it, and this is insensible organic contractility or tonicity of BICHAT, and is nothing different from GLISSON's natural perception. BICHAT makes a fourth case; as for example, when a muscle is divided across, it contracts by a *contractilité de tissue*, or *par defaut d'extension*. We do not perceive how GLISSON's natural perception can be applied to this case, but he treats of it in his fifth chapter under the head of Cessatio: it is that state to which a fibre is reduced when left to itself, and freed from all stimulus.

BICHAT has attributed to some fibres the power of active elongation. On this subject GLISSON says, "Impossibile enim est, ut simplex fibra, sua sola actione, se secundum longitudinem distendat, nec modus quo hæc fiat concipi nedum effari queat, non negavero quin in distensione hac, aliqualis fibræ actio includatur, sed ea tota contractivá est, & distensioni ab extranea causa factæ reluctatur." A doctrine as sound as that of the 47th proposition; a doctrine too, without admitting which, we think no man can understand the theory either of simple inflammation, or of the febrile affections. We hope to resume this subject at an early period.

QUARTERLY SUMMARY

OF MEDICAL AND SURGICAL INTELLIGENCE.

I. ANATOMY.

1. *Papillæ of the Tongue.*—At the upper surface of the tongue, say MM. Leuret and Lassaigne, in their recent work on digestion, the mucous membrane presents projections of three different species; and these are, the sensitive papillæ, the epidermoid papillæ, and the mucous cryptæ. The sensitive papillæ are numerous. They occupy the anterior four-fifths of the tongue, on which they are implanted by a narrow pedicle. The rounded head of these papillæ is much more prominent in the living subject, than after death; but injections are capable of restoring them to their pristine form. Nervous fibres from the lingual branch of the fifth pair have been distinctly traced to their roots. These papillæ are of various sizes: at the root of the tongue they form a V. They are all vascular and nervous. The sense of taste is referred by these writers almost exclusively to the above papillæ.

The epidermoid papillæ are of a nature similar to those retroverted prominences so remarkable on the tongue of the cat; as well as in the lion, and some other animals. They are larger in many species than in man; and, in general, the sensibility of the tongue appears to diminish in proportion to the remoteness of the subject from the human structure. The epidermoid papillæ are separated from the tongue along with the epidermis, or rather, epithelium, by maceration for a few days in vinegar. They are pyramidal in form. They are grouped round the sensitive papillæ, except on the edges and point of the tongue, where they are rare. Their base is perforated, and always gives outlet to a crypta. In an epithelium separated from the tongue, these minute and numerous perforations are easily distinguished from the larger ones left by the sensitive papillæ.

The office of the epidermoid papillæ appears purely mechanical.

The only cryptæ which produce, of themselves, a visible projection on the surface of the tongue, are situated at its base. They are formed by the mucous membrane, like other cryptæ, and are scattered between the sensitive papillæ.

In the tongue of birds, there is always a bone or cartilage; and the external membrane is dense. In reptiles the tongue is soft, possessed of little sensibility, and capable of great elongation. In fishes it is endowed with little motion, and is often wanting.—*Bulletin Medicale.*

2. *Villi of the Stomach and Intestines.*—MM. Leuret and Lassaigne state that the villi can be easily injected; most conveniently from the vena portæ,

though the arteries may be employed. In the latter case, the matter of injection is effused into the intestinal or gastric cavity. The villi are peculiar to these parts; they are inversely conical, adhering to the membrane by their smaller end. The best mode of exhibiting them, is to tie the vena portæ of a living animal, when they erect themselves by the afflux of blood. These diminutive organs, about $\frac{3}{100}$ of an inch long, then exhibit distinctly, under the microscope, four red longitudinal lines, being probably vessels.

Injections made retrograde from the thoracic duct, pass through the villi into the intestines. When the stomach of a man, who died of some complaint not deranging its condition, is examined, we sometimes find its lining membrane covered with a multitude of minute white points. These are the villi in a flaccid state. In those who have died during digestion, they are erected, and of a rosy colour.

When the intestine of a living animal is examined under a microscope, after being carefully washed, a great number of orifices are seen, from each of which exudes a minute drop of a transparent fluid. These rapidly disappear; and then the villi attract attention. What these foraminula are, the reviewer, M. Du Fermon, does not tell us.—*Ibid.*

3. *Minute distribution of the Vessels of the Liver.*—M. Cruveilhier gives, in his lectures, an account of the results he has obtained from a minute injection of the liver. He finds, 1. The acini surrounded with a dense, cellular texture, paler than themselves; 2. The ramifications of the hepatic artery distributed to this cellular envelope; 3. Those of the vena portæ spread around the acini, or granulations of the liver; and 4. Those of the biliary ducts, and of the hepatic veins, emerging from the cavities of these bodies.

Our readers will observe a great similarity, in this, to the arrangement of the lobules of the kidneys.—*Ibid.*

4. *Trachea perforating the Aorta.*—This odd distribution of parts, was observed by M. Zagorsky, at St. Petersburg, in 1802. The aorta divided itself, at its arch, into two branches, which received the trachea between them, and again united, exactly fitting the organ they received. They were found to have compressed the trachea, and probably produced difficulty of breathing.

In another case, in 1808, the right subclavian artery, instead of its usual origin, arose from the left extremity of the arch of the aorta, and crossed behind the trachea, thus including the latter between it and the aorta.

Why do we call the common trunk of the right subclavian and carotid, the arteria innominata? Is coining words so difficult a task, that we cannot find a proper and expressive name for it? The French call it *brachio-cephalic*, and this expresses its office and distribution.—*Ibid.*

5. *Monsters.*—These productions, hitherto considered as mere objects of wonder, from the study of which no useful inference could be drawn, have recently attracted a good deal of attention in Paris. There seem to be

some close affinities discoverable in many of them, not only with the natural and complete forms of animals of various tribes, but even with the actual condition of their own species, while in the fœtal state.

The views of M. Geoffroy St. Hilaire seem to us rather mystical and vague. Those of Breschet, and the other practical anatomists, we can understand much better.

6. *Malformation of the Heart.*—Drs. Baillie,[*] Langstaff,[†] and Farre,[‡] have each published cases; and M. Tiedemann, in his journal of Physiology, now adds a fourth, in which the aorta and pulmonary artery were found to have changed places. In professor Tiedemann's case, the two circulations were entirely distinct; the systemic blood passing from venæ cavæ to right auricle, from right auricle to right ventricle, and from this, through the aorta, to the body at large; while the pulmonary blood ran through an equally simple circle, by the route of pulmonary veins, left auricle, left ventricle, and pulmonary artery. The only communications between the two circulations, were the foramen ovale, the ductus arteriosus, and, in the opinion of M. Tiedemann, the inosculations between the branches of the *pulmonary* and *bronchial* arteries.

The infant is recorded to have presented *no peculiar appearances* till the ninth day; when attacks of suffocation came on, attended with the blackish blue colour, and followed by death, at the end of twelve days. Similar histories are said to be given of the cases mentioned above, and the references to which we have copied. We have not the time to consult them. —*Ibid.*

7. *Acephalous Mummy.*—M. Geoffroy St. Hilaire has read a memoir of some length to the Academy of Sciences, on an acephalous mummy. It was found in a catacomb, destined, with this exception, exclusively to animals. It had an amulet suspended round its neck, being an earthen figure of a cynocephalus, for which it was very probably mistaken by the Egyptians. The collector, M. Passalacqua, who obtained it, showed it to M. G. St. H. as a monkey, of which he wished to know the species. Yet the latter observes that these amulets were only put on human mummies.

M. G. concludes that the monkeys, elephants, &c. said by Livy, Valerius Maximus, Pliny, and others, to have been born of women in their times, and considered as omens of public calamity, were acephala.

8. *New Anatomical Plates.*—Messrs. E. W. Tyson and George Simpson are publishing anatomical plates, in London. They are spoken of with approbation. The labours of the latter are designed for the use of painters.

9. *A Manual of Osteology* has been undertaken by Dr. Weber, of Bonn, and one volume published.

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[*] Series of Engravings to the morbid anatomy; fasc. 1. pl. 6. fig. 1, 2.

[†] Lond. Med. Review; vol. 4.

[‡] Pathological Researches; Essay 1.

10. *Sœmmering's fine work on the anatomy of the ear*, has been translated into French, and his splendid folio plates copied in lithography.

11. *Does the conjunctiva run over the cornea?* Messrs. Lecoq, Leblanc, and Artus, state that they have each seen a case in which regular *skin* and *hair* were seen, forming a small patch on the cornea of the eye of a quadruped. This is considered as a proof of the existence there of a membrane naturally analogous to the skin; which must, of course, be the conjunctiva. An officer saw another case, in which a hair was seen in the middle of the eye of a horse.—*Bulletin.*

II. PHYSIOLOGY.

12. *Electro-Galvanic phenomena of Acupuncturation.*—M. Pouillet, after making a complete circuit, through a needle introduced in acupuncture, through wires, and through the patient's mouth, found, by means of a multiplier of Schweigher with a magnetic needle, that the electro-magnetic rotation could be readily produced; at least so far as to effect small vibrations backwards and forwards. On repeating it with two needles, one of them run into an artery and another into a vein, or one into the medulla spinalis, at the neck, and another into an extremity, in a rabbit, no effect whatever took place.—*Magendie's Journ. de Physiologie.*

13. *Variations in Milk.*—Milk, says M. Vallot, in his memoir read to the Academy of Dijon, may be *red.* The cause of this is unknown, though it has given rise to superstitious fears. Some have observed that the cow's teats are then tender. Whether this be cause or effect has not been ascertained.

Yellow milk is said to have been produced by the cow's eating the caltha palustris, (marygold.) *Blue milk*, from a cause still unknown, in the departments of Seine-inférieure and Calvados. Some have ascribed it to the hyacinthus comosus; others to butomus umbellatus.

The *green milk* of some writers is supposed to be only blue. *Milk not coagulable* is produced by feeding on husks of green peas, and on mint. *Bitter milk*, from wormwood, sonchus alpinus, and the leaves of the artichoke; and in goats, from eating freely of elder, (sambucus nigra,) and potato-tops; *a disagreeable taste*, from turnips, in Upper Canada. *Garlicky milk*, from causes well known. *Insipid milk*, and *lead-coloured butter*, from equisetum fluviatile. *Milk unnaturally sweet and luscious*, (sucré,) from alpine clover, (trifolium alpinum;) and *red butter*, from the ripe berries of asparagus.—*Bulletin.*

14. *Hyoscyamus dilates the pupils of the eyes*, in the same manner as stramonium, several Eastern species of datura, and belladonna, which the Europeans use. The strongest species was datura fastuosa.—*Oriental Magazine, apud Du Fermon.*

15. *Worms in the Eye.*—Several cases of worms in the eye are mentioned in the Bulletin des Sciences Medicales, for Feb. 1826. DEGUILLEME saw several in the eye of a cow; and the case was published by GOHIER, a veterinary teacher, in his memoirs. In the report of the proceedings of the veterinary school at Lyons, in 1822—3, there is the case of a mule, in which a knot of worms (crinons) was seen in one eye. *Two* were extracted; (why no more is not said;) and another subsequently. No inflammation was produced; but a violent nervous agitation of the head, and a turning of it to the left side took place. Next follows an account of a memoir read before the Medical Society of Calcutta, but of which the name of the author is not given. He is represented as stating, that the strongylus armatus minor of RUDOLPHI, and the *filiaris* (filaria) papillosa, are frequently found in the eyes of the horses in India, but much more so in the cellular membrane, particularly about the loins. He believes that they make their way into the blood-vessels, and, through them, into the eye. Their most ordinary seat is the cellular membrane of the loins; where they exist for years, producing emaciation, and, at length, paralysis of the hind legs. This last the Calcutta author is represented as ascribing to the penetration of the spinal marrow; but he does not appear to have verified it by dissection. TREUTTLER says, he has seen the strongylus armatus in *aneurisms* of the mesenteric artery of the horse; but the writer in the Bulletin doubts whether any have ever been found in sound arteries.

Dr. KENNEDY, in the Edinburgh Philosophical Transactions, describes a worm, which he calls *ascaris pellucidus*, (pellucida,) as being common in the eyes of horses in India. A review of BREMSER's work on worms is expected in our next, and inferences will then be drawn from these singular facts.

16. *Digestion.*—MM. LEURET and LASSAIGNE, in their very interesting and valuable experimental essay on this subject, have met with many curious results.

They found no remarkable difference in the saliva of carnivorous and herbivorous animals. The purest saliva was obtained for their experiments directly from the parotid duct, in man, the horse, and dog. The composition was as follows:

Water, 99 parts; mucus, traces; albumen, soda, chloride of sodium, chloride of potassium, carbonate of lime, and phosphate of lime, 1 part. Total, 100.

Their experiments on the bile confirmed the results of THENARD and CHEVREUIL.

The pancreatic juice is of the specific gravity 1.0026; at 15° of the thermometer: (centigrade, we presume.) Its composition is:

Water, 99.1 parts; animal matter soluble in alcohol, animal matter soluble in water, traces of albumen, mucus, soda, chloride of sodium, chloride of potassium, and phosphate of lime, 0.9 parts. Total, 100. This greatly confirms the analogy long observed between the pancreatic liquor and the saliva.

In the *gastric liquor*, there are:

Water, 98 parts: *lactic acid*, muriate of ammonia, chloride of sodium, animal matter soluble in water, mucus, and phosphate of lime, 2 parts. Total, 100.

Dr. Prout and Mr. Children have announced the gastric acid, of which so much has been said, to be the muriatic: while M. Chevreul had stated it to be the lactic. MM. Leuret and Lassaigne confirm the results of Chevreul, and that with great confidence in their own accuracy. They found the contents of all the four stomachs of ruminating animals acid. MM. Prevost and Leroyer had stated those of the three first to be alkaline. The observations of Leuret and Lassaigne agree with those of Montègre, (vide Dict. des Sci. Med.) who believes digestion to produce acidity as a result of the regular process.

The *faeces* become alkaline.

Substances which contain no azote, from whatever class they are obtained, cannot serve for nutrition. We cannot understand this, especially when compared with what follows. "If, on the contrary, they are soluble, one part is absorbed and another is expelled, either by urine or by the anus; such are sugar, gum, &c." This seems to us like a contradiction.

It is impossible, in the present state of science, to determine the chemical change which aliments undergo in the digestive organs; both on account of their mixture and the insufficiency of our means of analysis.

"The absorption of chyle takes place by the villi." "These communicate directly with the lacteals and the vena portæ."

"The transference of the chyle takes place by the lacteals; nevertheless, if they are obliterated, *this may be done through the vena portæ.*"

The section of the pneumo-gastric nerves does not stop the dilution of aliments in the stomach, or chylification.

The juices secreted by the liver and pancreas, are poured into the intestines in greater quantity during digestion than at any other period; in consequence of the contact of the acid chyme with the biliary and pancreatic orifices.

The pancreatic juice is analogous to the saliva.

The spleen is an appendage to the liver; it swells during the absorption of liquids by the vena portæ.

Liquid aliments are digested, just as much as solid; but they do not require so great a quantity of gastric and intestinal juices.

Watery drinks are absorbed in the stomach and intestines, by the radicles of the vena portæ. Spirituous drinks occasion an afflux of the gastric juices, become acid, and are absorbed.

Excrements owe their colour and odour to the bile, and their consistence to the absorption of a portion of the water they contain. They carry off a large amount of the nutriment.

Great obscurity still remains as to the cause of hunger.

Thirst is thought to be produced by the drying which the pharynx undergoes, from the passage through it of the air used in respiration, and at a time when the supply of mucous fluid is scanty.

Our readers will have perceived, long ere this, that here are several propositions at war, not only with our received opinions, but with the experimental researches of some others among the modern physiologists. We do not know what Dr. Wilson Philip would say to his observations being so cavalierly dismissed: they seem scarcely to condescend to mention his name in France. Not having the original, we could do no better than translate, almost literally, the conclusions of these experimenters, as stated in the Bulletin; and the result of this is what we have just given our readers. From the words "the absorption of chyle," to the end, is nearly verbatim the language of the review.

III. PATHOLOGY.

17. *Dothinenteria. Pustules of the small Intestines.*—From δοθιην, a pustule, and εντερον, an intestine. This name is given to a disease which has been described by M. Bretonneau, of Tours, and, after him, by Serres, Broussais, Andral, and several others. and consists in pustules, generally situated at the lower end of the ileum.

We are constantly lamenting to ourselves the contracted bounds allotted to our Quarterly Summary. Indeed, were it not for other objects, it might occupy, with advantage, half of the number, and most of the time employed in the preparation of the work. Every thing must be curtailed, though cut off at the most interesting and valuable point; and the painful exertion of the attention, necessary to condense information for our readers' use, of the amount of which they cannot possibly be aware, can only be equalled by the constant feeling of disappointment at rejecting so much important matter.

We are told that this pustular disease is as common and as destructive as the *small pox,* (indeed!) the measles or the scarlatina; that few persons spend the whole of their lives without having, at some period, suffered by it; that it never affects individuals but once; and that it is suspected of being contagious.

M. Bretonneau has prepared a set of specimens, taken from the bodies of those who have died in various stages of this complaint. He traces the malady day by day, with a precision which we will not copy here. The seat of this affection is the glands of PEYER and BRUNNER. The former are found in groups, throughout the lower half of the jejunum and the whole of the ileum, gradually increasing in the size and number of their clusters, till they reach the valve of the colon, where they cease. They have been mistaken by some dissectors of the modern school for the effects of inflammation. They are found in honey-combed patches; which are agglomerations of mucous glands. The glands of BRUNNER are the thinly dispersed mucous follicles which are scattered singly throughout the whole length of the small intestines, with nearly equal frequency. These organs are well described by HALLER in the great Physiology. They are not seen well, unless in a young subject, and by cutting into the intestine very close to the mesentery.

When inflamed, they swell and thicken, and, after some days, the membrane around them assumes a reddish tint. The mesenteric glands are enlarged. M. BRETONNEAU has seen one as large as a hen's egg: they generally equal in size that of a pigeon. The disease spreads and affects an additional number of glands. It reaches its acme generally on the 9th day; after which sometimes all, and always a part of the affected glands return to their natural condition, by resolution of the inflammation. Those which are to run the full course of the disease continue to augment in size and projection into the intestine. On the 13th and 14th days they are discovered tinged with bile, which penetrates their substance, and thus proves the occurrence of disorganization. On the 15th and 16th, the sloughs separate, and leave from one to six ulcers. These penetrate the gland, and with it the mucous membrane, of which it forms a part, and next, the cellular tissue of the intestine. In numerous instances they perforate the muscular coat, leaving nothing but peritoneum at the bottom; and frequently, passing this, they induce inflammation of the cavity of the belly, and death.

The cases of simple resolution terminate in three weeks: those in which sloughs are formed, in from 30 to 40 days, if not fatal. If death be from peritonitis, it is of course soon after the 15th and 16th days; if from exhaustion, at periods varying according to the strength of the sufferer. Dothinenteria occurs in many of the cases commonly called typhus fever, gastro enteritis, &c. It is proper to remark that both the author and the journal are in opposition to Dr. BROUSSAIS.—*Archives.*

18. *Dr. Broussais.*—While the opinions of this celebrated reformer have been gradually becoming more extensively known among our countrymen, the war has prevailed with increased heat in his native land. The most vehement attacks are made, from various quarters, upon his system of *medecine physiologique.* No one appears to deny that he has clearly proved the existence of mucous gastritis and enteritis in many or most fevers, or the propriety of directing a part of the remedies to them. Criticisms and invectives are freely emitted; but they are only levelled against the too extensive application of this doctrine, and the inconsistencies, unquestionably

often real, of the system of which he has made it the foundation. Indeed, if the quotations given are correct, we think no one who has not assumed a party, can refrain from concurring in their condemnation.

"Those who understand our doctrine never attack it; they speak of it only to express their admiration: above all, they never think of wishing to modify it, because they know that its fundamental dogmas are unshakeable." "Surtout ils ne s'avisent jamais de vouloir la modifier," &c. A man who assumes such ground as this, had need be very careful in assuming his positions, indeed; and should particularly avoid any thing like self-contradiction

The *Lettres a un medecin de province*, in a style of lively criticism, labour to show a great variety of inconsistencies in this immoveable doctrine. The review of this publication in the Revue Medicale, including copious extracts, coincides with, and evidently wishes to aid, the author's satire. In the same journal are a series of criticisms on some of the elementary propositions of Dr. BROUSSAIS, published in a late edition of his Examen; (nearly the same which were published here, some time since, in the American Medical Recorder, having been translated by Dr. ATKINS.) In these critiques, great severity is shown, in dealing with the new dogmas, and the doctrine is treated as one of dangerous tendency; while, at the same time, high praise is awarded to their author, for his discoveries in the diseases of the alimentary mucous membranes.

In the other journals, there is a division; some favouring the new opinions, while others oppose them with more or less of vehemence.

That the doctrine of gastritis has made a great impression at Paris, that almost every one believes in it, to a greater or less extent, appears undeniable; but there, as well as here, most of the more rational, and moderate minded men are evidently of the only school a physician ought to belong to, the *eclectic*. Borrowing largely from BROUSSAIS, and having had their minds powerfully stimulated by the succession of striking and novel ideas which he has introduced, they think it unmanly to "bind themselves to his chariot-wheel," but form conclusions for themselves from every resource within their power. If the great French reformer really wishes to establish as absolute a power over the minds of his followers, as MAHOMET or PYTHAGORAS did, and as the above-quoted extract seems pretty fairly to indicate, he must certainly undergo many mortifications. Notwithstanding the "inebranlable" nature of his dogmas, M. MIQUEL has furnished us with several variations from them, in the writings of Messrs. BOISSEAU, ROCHE, SANSON, REMUSAT, RICHOND, and BEGIN; and the last-named individual has had a public dispute with his preceptor.

M. BEGIN has produced his promised work on surgery, according to the principles of the new school. We have not seen the volume, but have read a review of it in the Revue Medicale, by M BELLANGER. The latter describes it as a cursory work, having for its object the adaptation of surgery to a set of general principles, rather than a detailed system of instructions how to proceed in each individual case. It contains only what is easy to be remembered, and omits those matters for which it is usual to refer to books. Thus two pages only are appropriated to fractures of the body and neck of the femur' and twenty-six for the whole subject of fractures, wounds, and six or eight of the most important diseases, of bones! Yet all this criticism is not without a compliment, well-merited at least by the former productions of the same author, to his talents and ingenuity.

19. *Whooping-cough.*—"There is no disease of children, in which the resources of medicine are more manifestly serviceable than in an obstinate whooping-cough." Such, in amount, was the opinion of Dr. **Underwood**, and Dr. **Watt** uses language almost equally strong. Certainly, we are not at all times equally successful or equally sanguine in America.

Dr. A. **Cavenne** considers whooping-cough a true bronchitis, a pulmonary catarrh; accompanied with greatly heightened nervous symptoms, owing to the irritable period of life at which it occurs. and particularly to its frequent existence in nervous constitutions. Professor **Tourtelle** calls it a pneumo-gastric, pituitous catarrh; and certainly, the pupils of a modern school will find no difficulty in recognizing symptoms of gastritis in its severer forms. The further inferences drawn by Dr. **Cavenne**, are as follows:

1. That the whooping-cough, in an individual of a sanguine temperament, requires, in general, the use of bleeding, and a debilitating regimen.
2. That bleeding and a debilitating treatment are equally necessary, whatever be the temperament, in whooping-cough of the chronic form.
3. That antispasmodics are necessary in nervous constitutions.
4. That blood-letting and the debilitating treatment should be rejected, when the subject is endowed with a lymphatic temperament. This observation, says our author, is equally applicable to early infancy, in which lymph predominates over the red blood, and the fluids are more diluted.

Finally, if the disease be obstinate, and there be disturbance in several functions, there is certainly reason to believe that a lung, a viscus of the abdomen, or the brain, is in an unfavourable condition; (the author means of the inflammatory kind;) and this is ground for the moderate abstraction of blood.—*Journ. Univ. Feb.*

20. *Antiperistaltic globus. Globus hystericus.*—Dr. **Trolliet**, of Lyons, observes that hysteria cannot, with propriety, be said to exist in the male sex; that it arises, as its name imports, from derangement of the uterus, and that **Cullen** and **Sydenham** have done wrong, and stand alone, in teaching the contrary. When there exists a real hysteria, the contractions are not confined to the intestinal regions, but invade the neighbouring parts; (quere, which of them contract?) they are always accompanied, when existing in a high degree, with convulsions and loss of the mental powers. In the intervals, the patients affected can satisfy their appetite.

Antiperistaltic globus may occur from various causes; and either in the intestines or the œsophagus.

That of the intestines is met with chiefly in advancing age; and is generally produced by daily and often-repeated pressure on the abdomen, as practised in various professions. Hard labour and bad diet also greatly aggravate it. At first pain in the intestines occurs, aggravated by labour; together with derangement of digestion.

The sensation of a globe then appears on the lower and left side of the abdomen; and, after performing various circuits, finally reaches the stomach; from which is soon after discharged, with great relief, a quantity of gas, issuing from the mouth. Vomiting of an acid and burning fluid, as also of the food, is not uncommon as an accompaniment. This ball is about the size of a man's fist, and is sensible to the external touch, and even to the sight. The patients possess the power, to a certain extent, of controlling its motions, and relieving the pain, which is often extremely violent, by pressure.

Indigestible food always aggravated the disease. Some could only tolerate milk, broth, and other fluids. A weaver was obliged to quit his profession, from the pressure on the abdomen which it required, occasioning the paroxysms.

The treatment consisted in

1. Avoiding the original causes.

2. The use of a species of corslet, (plastron,) to prevent future pressure on the abdomen.

3. A rigid diet. We do not understand why, firstly, articles containing a great deal of fecula, and, as it is said, "requiring a great action of the intestines," are forbidden, while, in the second place, rice is recommended. "Bouillon aux herbes," (a laxative decoction,) rice-cream, and milk, were found the best. Wine was injurious. Assafœtida and camphor were useful, and were administered in boluses. Purgatives were injurious. Emollient enemas were useful.

Of antiperistaltic globus in the œsophagus our author saw only two cases, which were not complicated with hysteria. The patients had both been subject to rheumatism; and, in one of them, this had been supplanted by an eruption of tetter: on the disappearance of which last the globus appeared. These cases were cured, the latter by a severe, light diet, and some antispasmodics, the names of which are not mentioned; the other by curing the rheumatism.

Dissections are somewhat difficult to obtain; unless where some other more mortal disease exists. In one, scirrhus of the pylorus was found; the stomach greatly enlarged; the small intestines contracted, *red outside and gray within.* (Where was the redness situated; in the peritoneal or the muscular coat? We must *guess* the latter.) The stomach was pale gray, and thickened. The large intestines were dilated, and gray.—*Journ. Univ.*

21. *Non-contagion of Yellow Fever.*—Dr. VALENTINE, of Nancy, has printed a pamphlet of a single sheet, in which he finds himself involved in all the turmoil, through which American physicians passed during the period which intervened between 1793 and 1805. Dr. V. gives his authority decidedly in favour of the non-existence of a contagion in this disease; and grounds his opinion upon the innumerable cases of patients affected with the disease and otherwise, who have escaped from infected districts, without communicating the malady in any instance, to the persons with whom they lived; upon the healthiness of ports, from which it has been said to have been introduced, &c. Dr. V. is not, as some of his countrymen have been, unwilling, from some unimaginable cause, to make use of the immense mass of American evidence; though he observes, and with justice, that experiments should be repeated in France, in order to set the public mind at rest in that kingdom. He proposes the employment of criminals for this purpose; and recommends every mode of the most close contact which his imagination could suggest. He mentions experiments of this kind having been made in the United States; and by M. GUYON, of Martinique, on his own person.

He quotes Dr. CHERVIN's labours, with great and just applause. This indefatigable and daring physician has now spent upwards of ten years in accumulating proofs upon this single question.

At the commencement of the pamphlet, the arrangement of which does not seem to us to be quite clear and easy, Dr. V. gives a sketch of the situation and localities of Leghorn. He traces the fevers of that place to putrid matters, perceptible by the sense of smell; and principally to obstructed drains. He does not give the exact degree of heat, but merely states that it was excessive, and followed by heavy rains.

IV. THERAPEUTICS, MATERIA MEDICA, AND THE PRACTICE OF MEDICINE.

22. *Iodine.*—In the former numbers of this journal, we offered some observations respecting the medicinal properties of iodine, intending then to present in one of our future numbers an elaborate analysis of a valuable work on this subject, by Dr. Manson, which appeared in England sometime last year.[*] Fearing, however, that the want of room and time will prevent us from fulfilling this task, as soon as might be desired, we have thought that a condensed notice of its contents would be acceptable in this place.

It appears that previously to the discovery of iodine as a medicinal agent, our author used the burnt sponge in bronchocele, a disease very common in the neighbourhood of Nottingham, where he practices. But when the effects of the former remedy was announced, Dr. M. prepared a tincture composed of one drachm of iodine to two ounces and a half of rectified spirit, (spec. grav. 916.) and prescribed it very extensively in doses of from 10 to 30 drops three times a day, according to the age and strength of the patient. Dr. Manson has presented a tabular view of 116 cases of bronchocele treated by iodine, and also a detailed account of 15 more cases, with appropriate remarks. Of the former, there were, viz:—

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[*] Medical Researches on the Effects of Iodine in Bronchocele, Paralysis, Chorea Scrofula, Fistula Lachrymalis, Deafness, Dysphagia, White Swelling, and Distortions of the Spine. By Alexander Manson, M. D., &c. London, 1825.

Males—	Cured,	10	
	Much relieved,	1	
	Discharged for non-attendance,	1	
	Improving under treatment,	3	—Total 15
Females—	Cured,	66	
	Much relieved,	9	
	Not relieved,	2	
	Discharged for non-attendance,	10	
	Improving under treatment,	14	—101—116

Whilst using the tincture internally, Dr. Manson occasionally had recourse externally to a liniment composed of

Liniment. Sap. Comp.	℥i
Tinct. Iodinæ,	ʒi *m.*

Some patients can bear this quantity rubbed into the tumour once, and sometimes twice a day; though in some, the skin is so tender, that the liniment cannot be so frequently used. Dr. M. prefers this liniment to the common iodine ointment, as less liable to evaporation. In France, we believe Dr. Richond prefers rubbing in the tincture itself. The following remarks are useful:

"In some *individuals*, after the preparations of iodine have been given internally for some time, they are apt to occasion head-ach, giddiness, sickness of stomach, with some degree of nausea, langour, and inaptitude for exertion; when these unpleasant sensations and effects occur, the best plan to remove or obviate them is to suspend, for a time, the use of the medicine, or to reduce the dose, as may seem most expedient." A reduction of dose, from fifteen to twelve drops, was the plan adopted by our author on this occasion.

2d. *Paralysis.*—Want of success with the ordinary modes of treating this disease, induced Dr. Manson to try the effects of iodine.

"The wonderful powers of iodine, which I had recently witnessed, and a long previous acquaintance with the same remedy as it exists in burnt sponge, in reducing morbid enlargements of the thyroid gland, led me from analogy, to think, that in cases of palsy, from tumours or fluids pressing on the brain or spinal cord, or from morbid thickening of the investing membrane of the cord itself, iodine might prove a useful remedy not only by stimulating the nervous system, and removing morbid tumefaction and effusion, but also by correcting the strumous state of the constitution that often gives rise to the disease."

The following interesting case as abridged in the Medico-Chirurgical Review, for January 1826, we take the liberty to transcribe.

"J. Watterton, aged 19, was admitted into the General Hospital of Nottingham, on the 27th of March, 1821, having been ailing since October, 1819. Stated that he had at first been attacked with pain in the bowels, which having ceased, the lower extremities became swelled and painful.

"After this, his neck became stiff and painful, with shooting pains from the neck into the l[illegible] side of the head. These also disappeared; and did not afterwards return. This was about nine months ago, and, at that time, he suddenly lost the power of the left arm, and in a short time afterwards, that of the left lower extremity. Some time after this, he recovered, partially, the use of the left arm; the leg remaining paralytic. About this time, the *right* half of the body was instantaneously and completely palsied. He has continued ever since in this wretched state, getting worse rather than better, passing his stools and urine, involuntarily. He lies on his back, and, with the exception of the left arm, he is completely paralytic on both sides, from the neck downwards. The sense of feeling is very much impaired—there is no distortion of the face, nor impediment of speech. Is troubled with twitchings in the lower extremities. *Purgatives—blisters to the nope of the neck, and to be kept open.*

"It appears that, about two years ago, he had a bloody purulent discharge from both ears. The left still continues to discharge a purulent looking matter. Purgatives were continued till the 6th of April, when the tincture of iodine, in doses of 15 drops, was given thrice a day. April 9, can raise the right arm nearly to the head; but the power of the lower limbs has not improved. The twitchings have decreased. Purgatives—the tincture of iodine to be increased to 20 drops ter in die. 10th. Evinces some muscular power in the lower extremities to day—feels stronger—can retain his urine for some time. 14th. Continues to improve. The left foot is become exquisitely sensible, and that extremity is often drawn up spasmodically towards the body. The iodine to be increased to 25 drops. 16th. The paralytic symptoms continue to yield to the powerful influence of the iodine. When his meat is cut, he can now feed himself with the left hand:—can raise the right hand to the chin, and draw the right upper extremity up towards the body. He continues to hold his water. The iodine is increased to 30 drops, thrice a day—from this date to the 7th of May, the medicine was occasionally obliged to be intermitted and again commenced in smaller doses. At this period, however, the patient could walk from his bed room to the day ward with very little assistance. 19th. He can walk without any assistance, except that of a stick to steady him. June 9th, can walk without a stick. He is gradually recovering the power of motion and sense of feeling. Drops agree. Appetite good, and is allowed full diet. July 3d, the patient was discharged cured."

Besides this highly interesting case, 24 more of paraplegia, hemiplegia, and partial paralysis, are given in detail, in which the iodine was exhibited with various success. In his prefatory remarks to this chapter, Dr. **Manson** observes, that although he has been able to cure only a proportion of the cases of palsy that have come under his care since April 1821, yet he has been much more successful in his practice since that time, than he was previously with the use of all the ordinary means.

Having succeeded so well in paralysis, Dr. **Manson** was induced to try the effects of iodine in chorea, which he thinks is more closely allied to palsy than is supposed, and is linked to it by that species of the disease called shaking palsy. Of chorea treated with iodine, and showing the efficacy of the remedy, Dr. **Manson** details eleven cases, and concludes this section with a tabular view of 72 cases treated at the General Hospital near Nottingham, between the 6th of October, 1812, and the 5th of October, 1824. In all the cases detailed by our author, the iodine was administered after purgatives, and throughout the treatment, the bowels were carefully regulated by aperient medicines.

Dr. **Manson** next records the results of his experience with iodine in scrofula—detailing three cases of scrofulous enlargement of the conglobate glands—two of scrofulous ulcers, and four of scrofulous ophthalmia; in all of which, the most beneficial effects were obtained. Our author details eleven cases of fistula lachrymalis, in which iodine produced the happiest results. He was led to prescribe iodine in this disease from the circumstance, that one of the individuals to whom he gave it for paralysis, laboured under the fistula, and was promptly relieved of it, whilst under the use of the remedy.

Dr. **Manson** has likewise detailed nine cases of deafness cured, or greatly relieved, by iodine. In most of these cases, the disease originated from obstruction of the Eustachian tube, the consequence of swelling of the tonsils, or of the membrane of the tube itself, from previous inflammation.

Seven cases of dysphagia, eleven of white swelling, four of morbus coxarius, and eleven of distortion, form the subjects of the four succeeding sections. The medicine in all these cases, manifested so very decided a power in arresting the progress, and even in curing the disease, that we think ourselves safe in recommending a trial of it in similar cases. As the iodine, however, is a powerful stimulant, we would advise it not to be prescribed when there exists any fever, and especially when there are any decided signs of gastric irritation, as it would be likely to aggravate it.

23. *Non-mercurial treatment of Syphilis.*—In the first number of this Journal, we inserted an essay on this subject, by Dr. **Thomas Harris**, of this city, in which the author confirms, by the results of his public and private practice, the statements of the British army surgeons respecting the

efficacy and safety of the non-mercurial treatment. Since that period, having noticed that, by the worthy editor of a respected cotemporary, it is asserted that though mercury fails, "yet from the most ample experience in Europe, the present practice of Paris, England, Ireland, and the Continent generally, we must lean to the idea, that its use, under proper regulations, must be always adopted, as the only safe mode of cure in these diseases," we deem it but justice towards Dr. H. to call the attention of our readers to the result of the extensive experience of some physicians on the continent of Europe. Not to mention Broussais himself, who appears to have rejected mercury almost entirely in the treatment of primary or secondary symptoms, we may cite Mr. Richond, who reports that he treated, at the military hospital of Strasburgh, nearly 3000 cases of syphilis in all its grades, the vast majority of which were completely cured without mercury, and simply by means of antiphlogistics, emollients, and revulsives. Mr. Richond, besides some essays in the Archives Medicales, and a summary of his experience in the preface to his work on apoplexy, has lately published an elaborate work on the subject. In the October number of the Annales de la Médecine Physiologique, Mr. Becquart of the military hospital of Bayonne, details twenty-six cases of gonorrhœa, inflammation of the testicles, chancres on the glans and lips, buboes, excrescences around the anus, &c., all of which were cured without mercury, and with the same remedies as were employed by Mr Richond. We might adduce the testimony of other French physicians, and particularly of M. Begin, but we deem it unnecessary, as the above will be sufficient to show that in France the practice meets with the support of many very intelligent physicians. We annex the conclusions of Dr. Otto of Copenhagen, drawn from an extended personal experience, and from his researches on the subject. Dr. Otto's essay is contained in a late number of Gräafe's and Walther's Journal, and the conclusions are published in the Edinburgh Medical and Surgical Journal. Dr. O. remarks:

1. That the cure of syphilis, without mercury, has been asserted by so many authorities, that the fact can no longer be doubted. If, then, the disease could formerly be cured without mercury, it may certainly now be much easier, as it has lost much of its violence and obstinacy.

2. Syphilis can undoubtedly be radically cured in this manner; but then the cure is of longer duration, and the diet requires considerable restriction.

3. The secondary symptoms, and a return of the complaint, are certainly more frequent; but the symptoms are not so difficult of removal; and the treatment has a much more speedy effect.

4. As the treatment without mercury requires a longer time, it appears more practicable in hospital than in private practice; and on the other hand, the patient can be better watched in a hospital, which, on account of the diet, is of great importance.

5. As ulcers on the genitals are often not syphilitic, and the use of mercury is contraindicated from a predisposition to scrofula or phthisis existing in the individual, it is consolatory to learn from the results of experience, that this medicine is not always necessary, and that a radical cure, by more simple and innocent means, can sometimes be effected. Where, however, the physician is anxious to avoid the possible evils which mercury is capable of producing, and also to prevent loss of time, there remains a middle way, namely, to employ mercury, whose specific action can scarcely be denied, in moderate doses.

It results from a report of the cases of syphilis admitted into the public institutions of Sweden, that 3,574 were treated in 1822; 3,465 in 1823, and 3,355 in 1824. During the course of this last year, $55\frac{3}{10}$ per centum of all the patients were treated by the mercurial method, and $35\frac{1}{10}$ per centum by the non-mercurial method, and by low diet; $2\frac{1}{2}$ per centum by means of fumigations. MM. Kessler, Wurster, Ronberg, and Sandmark, prefer the dietetic method, and consider it as the surest of all those hitherto employed. Relapses are rare. In 1822 they amounted in relation to the whole number of cases, to $11\frac{2}{3}$ per centum; in 1823 to $10\frac{1}{4}$, and in 1824 to $10\frac{2}{3}$. After the treatment by starvation, they amounted in 1822 to $7\frac{3}{4}$ per centum; to $7\frac{1}{3}$ in 1823; and to $8\frac{1}{3}$ in 1824. After the mercurial treatment, in 1822 to $17\frac{1}{2}$ per centum; in 1823 to $14\frac{1}{10}$; and in 1824 to $14\frac{1}{2}$. *Bulletin des Sci. Med.*

We hope to lay before our readers at some future period, an analysis of Mr. Richond's work above alluded to, as well as of one on the same subject by Mr. Jourdan of Paris, author of some essays on the origin of syphilis, translated and published here a few years ago

24. *Cancer treated by Antiphlogistics.*—Of all diseases classed among the opprobria medicorum, cancer has hitherto been justly viewed as holding the most conspicuous rank, and it is only within a short time, that it appears to have been treated on correct principles, and that cures have been detailed by individuals of undoubted veracity. The idea of the inflammatory nature of cancer, and of the propriety of treating it by means of antiphlogistics, has been held many years ago, and supported by Vasalva in Italy, Fearon in England, Hufeland in Germany Pouteau and Vacher in France, not to mention other high authorities. But, notwithstanding the success attending this practice, it was too simple for the supporters of cancerous humours and specific inflammations, and seemed, in consequence, to have been abandoned by them, in their search after anti-cancerous or specific remedies; and little was heard of it, until revived by the disciples of the physiological school of France, and particularly by its founder professor Broussais, and by professor Lallemand of Montpellier, the result of whose experience is published in a thesis, lately defended at Montpellier by Dr Mareschel.

We have been led to these reflections from reading the above essay, and another on the same subject, published by Dr. J. A Puel, in a late number of the Archives Générales de Medecine. Dr. P. details many cases, which were treated by his father, by means of leeches, emollients, purgatives, &c. so early as 1807. In most of these cases, the practice appears to have been very successful. As it is our wish to impress our readers with the propriety of making a fair trial of this method, in cases of scirrhus and cancer, we shall select and translate a few cases from the latter essay. It is proper to premise, however, that the practice must not be viewed as completely successful in *every* case, and that the older the complaint, the less confident we ought to be, in respect to the happy results of the case. Nor is it to be expected, that *boldness* in the employment of the lancet and leeches, will answer as well as a perseverant, constant, but moderate use of these means. Chronic inflammations are not to be removed by storm, but by a *chronic* use of remedies, and particularly by attention to diet.

We cannot at present determine precisely the proportion of cures effected, by this method, of scirrhus or cancer, in a given number of cases, and how far it will surpass, in point of success, the common method of treatment by *specific* narcotics and escharotics; but, even supposing that it is not more successful, (which we are disposed to deny,) it has at least the vast advantage of being more *comfortable*, and much less painful to the patient.

Mrs. D. enjoying good health, and mother of three children, was brought to bed in 1823, of a healthy child, which, however, she did not suckle. With a view of suppressing the secretion of milk, irritating applications to the breast were resorted to, which brought on an inflammation of that organ. Emollient poultices were now applied; these, however, did not prevent the formation of an abscess, which was opened by means of caustic potash. The suppuration, for a few days, was abundant and the matter discharged healthy. Purgatives were prescribed, with the view of suppressing the discharge, and mercurial ointment was rubbed on the tumour, to produce its absorption. These remedies were not successful, because no means were employed to arrest the inflammation, which gave rise to the suppuration.

When the patient applied for advice, she had been sick already four months, and presented the following symptoms. She was very much emaciated, and laboured under fever, resulting from a gastro-enteritic inflammation, kept up by purgatives and deostruents, (*fondans*,) which, from the commencement of the attack, were prescribed for her. The ulceration of the mamma was of the size of a five frank piece, unequal and gray, and gave issue to an ichorous and fœtid purulent matter. The edges were thick and everted, and surrounded with an erysipelatous inflammation. The whole mamma was large and hard, and the seat of lancinating pain. Thirty-five leeches were applied around the tumour, and gave rise to a profuse hæmorrhage, which continued many hours. From this, the patient experienced so much relief from pain, as to be able to take some repose, of which she had been deprived for some weeks. Emollient poultices and drinks were prescribed, and a low diet enjoined. By all these means, the pain was lessened, and the swelling much diminished. Leeches were again applied, and the other remedies continued. The wound gradually improved, and in forty five days, was completely healed.

Mr. P. was called on the 25th of September, 1817, to attend a lady, who had been affected for two days with uterine hæmorrhage, which he succeeded in arresting. The following history of her complaint was given to him: she had aborted about 18 months before, and since that time, had experienced every fortnight an uterine hæmorrhage, which generally lasted five or six days. During the intervals, she complained of deep seated pain, numbness and cramps, in the lower part of the abdomen, in the thighs and groins. The pain was much aggravated when she had a stool—walking, especially when long continued, was painful, and attended with a sense of dragging, which was only relieved by repose. From the same period, her disposition had changed from gay and lively, to melancholy and morose—her digestive functions were slow and painful—she was affected with leucorrhea, and during coition, felt much pain, and often lost some blood. On examination per vaginam, it was found, that the neck of the uterus was elongated—the anterior lip of the same organ was soft to the feel—the orifice somewhat enlarged, and painful when the finger was introduced into it. On the inferior lip there was a small unequal and painful spot, which was regarded as a superficial ulceration; the uterus was a little prolapsed, and somewhat enlarged; the pulse small and frequent; febrile exacerbations every evening; sleep not refreshing, and interrupted by short lancinating pain in the uterus.

The disease was judged by Mr. P. to be a chronic metrites, with ulceration, and all the symptoms usually attending incipient cancer. Guided by this belief, and notwithstanding the already long duration of the disease, and the debility of the patient, the following treatment was adopted—complete repose in the horizontal posture—leeches to the vulva, repeated several times—vaginal injections, with emollient decoctions—hip baths—very low diet. After persevering in this plan twenty days, the patient appeared much better, and was allowed to sit up. General baths were substituted for the partial ones. The same treatment was continued, with the exception of the leeches, and at the end of thirty days more, all the symptoms of the disease had completely disappeared. Mrs. P. was allowed to spend the following spring in the country, from whence she returned in very excellent health. She has since continued to enjoy it, and has borne several children.

Cases nearly similar, are detailed by Mr. Mareschal, as having occurred in the practice of professor Lallemand. The same gentleman, also gives the history of two cases of external cancerous sores, in which the same treatment was adopted The patients having died during the progress of the cure, of other diseases, an opportunity was offered, of examining by dissection, the changes that had occurred in the parts. We cannot enlarge on the subject in this place, and can only remark, that these changes were such, as to lead us to hope, that less difficulty will be experienced in the treatment of sores reputed cancerous, by the local antiphlogistic plan, than is commonly supposed. At any rate, recommended by such high authorities, the practice deserves a trial.

The Revue Médicale for February 1826, contains the details of a case lately cured at La Pitié, by Mr. Lisfranc. The patient, a woman, aged 36 years, of a strong and good constitution, had suffered the removal of a cancerous breast, 18 months previous to her admission into the Hospital, on the 10th October, 1825. The following symptoms were observed. On the whole surface of the cicatrix were felt a number of engorged ganglia, and an induration situated on the large and small pectoral muscles, and spreading from the clavicle to all the external and superior part of the thorax, and as far as the axilla, where other swollen ganglia were felt. The enlarged surface was elevated about half an inch above the level of the chest. Severe lancinating pains were at short intervals felt by the patient—which came on without any evident cause, and were particularly severe on the least pressure of the swollen part.

This patient was treated by means of frequent and copious bleeding from the arm—the very frequent application of leeches to the inflamed part, and to the upper and interior part of the thighs, to bring on the menstrual discharge—digitalis to remedy the frequent palpitations—emollient applications, and low diet. On the 10th of January, she was considered well;—the swellings and pain having disappeared—the menstrual discharge being well established, and the movement of the arm (which during the progress of the disease had been impeded from the swelling in the axilla) perfectly free.

We are happy to learn that this practice is pursued with success by the Spanish physicians, as may be readily found by a reference to a late number of the Periodico de la Sociedad Medico-Quirurgica de Cadiz, which contains cases of scirrhous mamma cured by the repeated application of leeches.

25. *Essential oil of Male Fern, as a remedy in Cases of Tænia.*—The male fern has long been regarded as a valuable anthelmintic medicine; but, as every powder administered in large doses, its exhibition is difficult and disagreeable; so much so, indeed, that many patients refuse to make a sufficiently constant use of it to ensure its beneficial effects. Struck with this inconvenience, M. Perchier, a pharmaceutist of Geneva, has lately made some experiments with a view of discovering its active principle, and to see whether this latter may be administered with equal success with the powder or infusion of the plant. We are happy to learn that the result of his experiments are very satisfactory. We translate the following observations from a memoir on the subject, read on the 7th of October last, by Mr. Gendrin, before the medical society of the department of the Seine. "This

medicine, which is a fatty oil extracted by distillation from the æther, in which the powder of the root of the male fern has been macerated, has caused in many cases, the expulsion of the tænia, without occasioning nausea, colics, or any other morbid phenomena." "It is exhibited at bed time, either in an oily potion, in pills, or incorporated in an electuary, in doses of 18 or 20 drops. On the following morning, a similar dose is given, and two hours after, two ounces of castor oil are administered. In most cases, the tænia is expelled in the course of the day, but if this does not occur, the same doses of the oil are given in the same way, and followed by a similar quantity of the castor oil. The fatty oil of fern, has an æthereal and empyreumatic smell; its colour is brown, and its consistence rather greater than that of castor oil; it is, however, easier to separate in drops. Its taste is acrid, pungent, empyreumatic, and very disagreeable.—*Propagateur des Sciences Medicales, Janvier* 1826.

26. *Tincture of Bastard Saffron*[*] *for the expulsion of Tænia.*—Dr. CHISHOLM, of Canterbury, has lately used with success, in a case of tænia of many years standing, the vinous tincture of bastard saffron. The patient had already undergone various plans of treatment, and had especially used the oil of turpentine in very large doses. Dr. C. was induced to try the above remedy, from having noticed, that in a case in which it had been prescribed for the cure of rheumatism, a large portion of tænia had been expelled. He consequently administered two ounces of the tincture; advising the patient to take a table spoonful more of it mixed in a little water, two or three times a day. On the third or fourth day after commencing the use of this remedy, the patient voided a large portion of the worm, and has since been free from the usual symptoms of the disease.

27. *Oil of Turpentine in Tænia.*—Although the oil of turpentine is used in many parts of this country, in cases of tænia, we have good reasons for believing, that some physicians continue, notwithstanding the testimony in its favour, to hesitate exhibiting it in doses sufficiently large to destroy and promote the expulsion of the worm. Such being our opinion, we are induced to offer here a few remarks on the subject, and to notice a memoir published by Dr. DE POMMER, in a late number of Hufeland's Journal. The employment of this remedy in such cases, is not of recent origin, having been resorted to many years ago by the Swedish practitioners, and subsequently revived by the English. In Germany it has recently been used by Professor OSANN, and we believe particularly by Dr. DE POMMER, who appears to have prescribed it boldly in very many instances, and in some, after the ineffectual employment of all other anthelmintics. Dr. P. adds, that he never saw any bad effects resulting from its use, and that patients are very little liable to relapses when treated by it.

Among the cases detailed by Dr. DE POMMER, we select the following, as calculated to show the manner in which the Dr. uses the remedy.

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[*] Carthamus Tinctorius.

* "G. K . . ., a soldier aged 21 years, thin, tall, and who during his infancy had been subject to ascarides, has occasionally voided during more than 10 years past, portions of tænia He had used several purgative medicines, by which several yards of this worm had been expelled; but annoyed with so many attempts at obtaining its total expulsion, he had ceased, three years before, the use of all sorts of anthelmintics. But the phenomena resulting from the presence of the animal being aggravated, the patient applied for advice to Dr. De Pommer, who found him labouring under the following symptoms:—Frequent pain in the abdomen, and especially in the umbilical region, accompanied with a sense of burning heat, and alternate distension and depression of the abdomen. Appetite sometimes keener than in health; at others nearly lost. In the morning before breakfast, the patient was seized with extraordinary weakness, and general uneasiness, accompanied with trembling of the limbs, ineffectual attempts to vomit, a sense of constriction in the throat, and a profuse salivation. All these symptoms disappeared after K . . . had taken food; but reappeared two hours after. Milk and farinaceous aliments were the only articles of which he could make use without an aggravation of his disease. The pulse was febrile; sleep good, but attended with dreams. The pupils were in the natural state. From the symptoms, and from the history of the case, Dr. P. was induced to make use of the oil of turpentine in the following manner. The patient was ordered in the morning, before breakfast, three table spoonsfuls of the remedy, at half an hour's interval. The first doses produced only a few borborygma. Two more table spoonfuls occasioned a vomiting of mucous matter. Three more table spoonfuls were exhibited, and followed by a stool of solid fæces, mixed with which were five small pieces of tænia. The patient not finding himself incommoded, took in the space of an hour, three more table spoonfuls of the remedy, after which he experienced some pain in the head, and vomited about one pint of bilious liquid. An hour after, the same quantity of the medicine was taken, and followed again by vomiting; but after a repose of half an hour K . . . discharged, per anum, firm and greenish fæces, and with them five ells of tænia. The urine discharged had the smell of violets. He again took a few spoonfuls of the vermifuge, which were not followed, however, with any fæcal discharge, and only with some vomiting of mucus, and slight vertigo. In the afternoon the patient felt well, and experienced a great appetite, in which he indulged. From this moment he recovered, and has ever since enjoyed good health. The quantity of the remedy used was six ounces."

It appears, from the observations of Dr. P., that the gastric irritation occasioned by the spirits of turpentine, has never amounted to phlogosis, and has generally subsided after the remedy had been discontinued. Nevertheless, as the spirit of turpentine is a very powerful stimulant, we would not venture to recommend its use, when there exists an inflammation in the gastro-enteritic system. We are aware that it is resorted to in burns, and highly eulogized in puerperal and yellow fever. In the first, it is certainly very useful, but on what principle we know not, except perhaps that its stimulus is different from that existing in the diseased part. But in the second case, it acts, not on the diseased surface, but by revulsion, on the mucous membrane; and as regards its virtues in yellow fever, we are rather sceptical in respect to what has been said on the subject. In this opinion we are supported by the testimony of our friend Professor Reese, whose situation of house surgeon to the fever hospital, during the epidemic of 1820, afforded him ample opportunities of testing the propriety of the practice.

In the number for March 1826, of the Revue Médicale, M. Maudru relates two cases in which large portions of tænia were expelled, and the patients cured, by means of a strong decoction of the bark of pomegranate. The first patient took, in one day, two pounds of the decoction made with four ounces of the remedy. The second patient took six ounces of the bark in decoction, in the course of forty-eight hours. In neither case did the medicine occasion unpleasant effects, with the exception, in the second patient, of slight colicky pains.

28. *Action of the Oil of the Euphorbia Lathyris.*—At a meeting of the Academy of Medicine, (section of pharmacy) M. Bally read the results of some clinical experiments made by him at the hospital of La Pitié, on the action of the oil of the euphorbia lathyris. The preparation used by him, had been made by means of alcohol and expression. It appears to be a little more active than the other preparations. Administered to fifteen individuals of different ages, it did not produce very various results, nor prove very active in its purgative effects. As a purgative, indeed, it is far less active than the croton oil, and requires to be given in much larger doses; as much as six or ten drops. It has also the bad property of exciting emesis, by which it is rejected from the stomach. On the other hand, however, it does not, like the croton oil, produce salivation, and is, on the whole, regarded by M. Bally, especially when fresh, as a useful purgative in diseases of children.—*Archives Generales*, *Decembre*, 1825.

29. *Medicinal properties of the Apocynum Cannabinum, or Indian Hemp.*—In an essay on this plant, submitted to the medical faculty of Jefferson College, by Dr. M. L. Knapp, we are informed, that in doses of 15 or 30 grains it possesses emetic properties. It was besides, on trial, found to be cathartic, expectorant, diuretic and diaphoretic. It appears to have been generally administered in powder, and Dr. K. remarks, that "in decoction, it seems to lose some of its emetic properties, and to act more upon the bowels as a hydragogue cathartic." "The root possesses all the medicinal properties of the plant, and is active throughout, both in its cortical and ligneous portions. Water or proof spirit is its proper menstruum."

This article was prescribed with success in dropsy, by Dr. Knapp, and by Dr. Parrish of this city. It was likewise used in intermittent fever, in bilious affections, amaurosis, hernia humoralis, dysentery, chronic rheumatism, &c. Dr. Knapp appears to have derived benefit from its use as an alterative in a case of fever in a child, attended with disordered bowels. "The powders (gr. ii. each at intervals of three hours,) were regularly persisted in for a week, and the child's health went on gradually improving. Neither vomiting nor purging was produced, but the morbid heat and thirst were allayed, the stools became natural, the skin soft and moist, and the functions of digestion and assimilation were gradually restored, and the child is at this time fat and healthy."—*American Medical Review, &c. April* 1826.

30. *Remarkable effects from the external application of the Acetate of Morphia.*—M. Dubourg has recently published the result of an experiment made at the hospital de la Pitié, with the acetate of morphia, which we regard as sufficiently interesting to be noticed in this place. The patient had been affected twelve months before with puerperal peritoneal inflammation, complicated with cerebral symptoms, from which, notwithstanding a most energetic antiphlogistic treatment, she never entirely recovered. When she was admitted into the hospital, she presented the following symptoms:—"considerable emaciation; skin hot and pungent to the feel; pulse small and frequent; tongue of a pale rose colour, dry at the tip and edges, brown and smooth in the centre as far as the basis; severe pain on the least pressure on the epigastrium and over the whole abdomen; cardialgia, nausea, vomiting of all solid and liquid aliments, and during the empty state of the stomach, violent efforts to vomit occurring at irregular intervals; abdomen tense and tympanitic; violent intermittent pain along the course of the intestines; constipation; sensation of fatigue and lassitude in the lumbar region and in the extremities; dragging pains in the inter-scapular region; extinction of the voice; urine red and scanty; the face animated and bearing no marks of profound suffering; agitation, and total want of sleep."

The disease was regarded as a chronic gastro-entero-peritonitis, and treated accordingly, by the antiphlogistic regimen; but no benefit was derived from this plan. The patient continued to vomit almost every thing she took, with the exception of sugar and a paste made with the Iceland moss. A blister was applied to the epigastrium on the 15th of February, seven days after her admission. Called to her assistance on the 22nd of February, on account of an aggravation of the vomiting, M. Lambert, one of the house pupils of the hospital, endeavoured to calm the symptoms by means of the acetate of morphia in powder, applied to the raw surface of the blister. Half a grain was used in this way, and in a few minutes the vomiting disappeared, and the patient passed a better night than she had yet done. M. Serres having authorized the continuance of this method, M. Dubourg the next day applied half a grain in the same way; and the patient slept the whole night. The remedy was applied every day with the same effect, and was gradually increased to two grains and a half. From the first application of the remedy, the symptoms gradually subsided; aliments were retained and properly digested; the pain and swelling of the abdomen disappeared, and on the 14th of March the patient was regarded as in a fair way of recovery.—*Archives Generales, March* 1826.

In some remarks which accompany this interesting case, M. Dubourg, seems to doubt the correctness of the first diagnosis, and to view the disease as a nervous, rather than as an inflammatory affection of the abdominal viscera.

31. *Cure of Urinary Calculi by means of the internal use of the Bicarbonate of Soda.*—At a late meeting of the Academy of Medicine, Mr. Robiquet read a memoir on the use of this salt in cases of urinary calculi. Having learnt from Mr. Darcet, that the use of the waters of Vichy changes the quality of the urine from acid to alkaline, Mr. R. conjectured, that this effect should be attributed to the bicarbonate of soda contained in them; and from this circumstance, he was led to administer this salt internally, in cases of calculi composed of uric acid. In July last, he made the experiment on a man 74 years of age, who had laboured under symptoms of the disease since the month of February, and in whom, by means of the sound, a small and soft calculus had been detected. Mr. R. ordered him 10 grains of the bicarbonate in the course of the day, dissolved in two pounds of water—prescribing at the same time, hip baths, injections, &c. At the end of fifteen days, much benefit had already resulted from this treatment; and in a month, the patient appeared to be cured. Nevertheless, the remedy was continued until November, when the patient passed through the urethra, a small calculus composed of uric acid, which appeared to have been the nucleus of a much larger one, the exterior strata of which had been worn off. From that period, the patient has not experienced any unpleasant symptom; but the sound was not resorted to, to ascertain whether the first calculus before felt, could be detected.—*Archives Generales, February*, 1826.

32. *Attempt to cure Abdominal Dropsy, by exciting Peritoneal Inflammation.*—In the number of the London Medical and Physical Journal for April, 1826, a case of ascites is related by H. R. Oswald, Esq. in which the cure was attempted to be effected, by exciting peritoneal inflammation. The following symptoms were noticed at the time of application for advice: the abdomen measured nearly six feet in circumference, was exceedingly hard and tense; but not tender. The patient "could hardly walk across her cabin from dyspnœa and debility, and the weight and tension of the tumour, which caused her to bend the body much forward, leaning her hands on her knees. The emaciation was very considerable; the appetite good; thirst considerable; tongue clean; pulse 120, and small; skin dry, harsh, and rough; bowels habitually costive; urine scanty." "This affection com-

menced about twelve months ago, after an obstruction of the catamenia for nearly a year, arising, as was supposed, from exposure to cold. The swelling was preceded by lancinating pains in the abdominal and lower part of the thoracic cavities, but which, after a few months, ceased entirely; and the disease had, in a chronic manner, gradually arrived at its present oppressive form."

Paracentesis was performed several times; cathartics, diuretics, the lancet, blisters, and tonics were resorted to, with relief from some of the symptoms. The tumour, however, returned several times, so that M. OSWALD despairing of effecting a cure by following the same plan, and recollecting a case of ascites, which was cured apparently by an inflammation having supervened in the peritoneum, from the orifice made by tapping remaining open, attempted to produce the same effect in the present patient, by keeping the orifice of the wound open by means of a small tent. In this he partly succeeded, for in the course of a few months, all symptoms of the effusion had disappeared; health and strength had much improved, and the patient had experienced a return of the menstrual discharge, which had been suppressed for nearly three years.

About a year afterwards, however, the disease returned. Paracentesis was again performed several times, and a tumour was perceived to have formed in the lower part of the abdomen. The patient died in about five or six months from the re-appearance of the effusion. On dissection, much water was found in the abdominal cavity, which was lined by a dense, white, and rough looking membrane, of a fragile and diseased structure. The intestines behind this membrane, were unusually small, and of a dark leaden colour The tumour above alluded to, was discovered to be situated in the region of the right ovarium; it was a tubercular, carcinomatous, and pale coloured fungus, possessing a structure not unlike that of the placenta, and was formed in the interior of the sac, which being traced further back, was found to be the cyst of a dropsy, originating in the right ovarium at the fundus of the sac, or "more properly speaking of its neck."

"The foregoing statement," Mr. O. remarks, "involves four facts and questions of considerable importance in pathology. 1st. The great quantity of fluids evacuated in so short a space of time: no less than ninety-six quarts in eight months, by four operations; and fifty-nine quarts from August to December, 1824, by three. 2nd. The variety in the nature, consistence and colour of these fluids. 3d. The possibility of curing ascites and dropsy of the ovaria, by exciting inflammation in the abdominal sac, either by the admission of air into it, or mechanical irritation; and 4th. The possibility of a thickening of the parietes of the abdomen by inflammation, or by an exudation of a carcinomatous sort, being mistaken for a tumour rising out of the pelvis."

33. *Artificial Respiration.*—Dr. J. WARE of Boston, relates in the New England Jour. for April last, that he was led by the experiments of the

justly celebrated physiologist Mr. **Brodie**, to employ artificial respiration in the case of an infant 9 weeks old, whose system was prostrated from an over dose of laudanum. "The action of the heart was reduced to an occasional throb; the pulse had entirely ceased, and the efforts at respiration, which for some time had consisted merely in an occasional gasp, became more and more unfrequent." The child had been afflicted for five or six weeks with hooping-cough, and had been very sick and feeble when the laudanum (about 15 drops) was administered.

By means of the stem of a tobacco-pipe, artificial respiration was excited, and continued for several minutes: the action of the heart was immediately renewed, and the pulse could be again felt. At the end of an hour, during which the artificial respiration was repeated at intervals; "the respiration became natural, the pulse distinct and tolerably strong, and the heat began to return." A fit of coughing, preceded by a livid appearance of the forehead and face, arrested the breathing, "which did not return till assisted by the artificial process." The child, assisted by these measures, and by attention to the more usual means of recovery, struggled through the night, but died during a paroxysm of coughing in the morning.

The conclusions of Mr. **Brodie** are, that narcotics destroy life through the organs of respiration; and hence, if respiration can be artificially carried on until the effects of the narcotic subside, life may be preserved. Dr. **Ware**'s case would seem to confirm this idea; for it is *probable* his patient would have recovered from the effects of the narcotic, if the paroxysms of coughing had not interfered.

34. *Secale Cornutum.*—Mr. **Charles Waller** has lately published (London Medical and Physical Journal, April 1826,) several cases illustrative of the action and efficacy of secale cornutum. We have not room for any of the cases, and content ourselves with transcribing Mr. W.'s inferences. These are: "That the secale cornutum is a remedy which is capable of increasing the force of the uterine contraction in a most remarkable manner, under certain circumstances; but that the effect is doubtful, unless there be some degree of action present. In other words, that, although it will increase the contractions when already present, it will not always renew them when they are suspended.

"That the effect is more certain if the infusion be of greater strength than is usually recommended; two drachms of the secale to six ounces of water being barely sufficient for the purpose.

"That it appears to be a stimulus peculiarly fitted for irritable, and what are generally termed *nervous* habits.

"That the fears entertained by some practitioners of its proving detrimental to the child, are groundless.

"But, although it is in general necessary, not only that there should be a disposition for labour, but that this process should have actually commenced, before we can expect the secale cornutum to have any effect upon the uterus, still one solitary case has indirectly come to my knowledge (and I will vouch for the authenticity of it,) where this remedy was given for the purpose of producing abortion in a female, about the second month of utero-gestation; and this effect was accomplished in a few hours after its exhibition."

35. *Animal Magnetism.*—This strange doctrine begins to acquire considerable vogue in France, and other European countries, from which it seemed to have been expelled, by the contempt and ridicule which it met with, from most of the learned of the latter part of the last century. ANTHONY MESMER, the great chorœgus of the magnetic mummers, was born in 1733, and excited a vast deal of attention, by the enormous pretensions which he set forth on the subject of magnetism. MESMER came from Austria to Paris in 1778. He addressed the Academy of Sciences, and that of Medicine, but no attention was paid to him, till a commission was appointed to examine carefully into the merits of the question. This commission in 1784, so fully exposed the fallacy of MESMER's theories and practice, that he soon afterwards quitted Paris, and retired to England under a feigned name. He subsequently went to Germany, and died in obscurity, in the year 1815.

In December last, M. HUSSON (for himself, and MM. ADELON, BURDIN, MARC, and PARISET,) read a report to the Royal Academy of Medicine, on the question, whether it was fitting for the section to undertake new researches on animal magnetism, as it had been thought to be definitively settled by the decisions of 1784. The report concluded affirmatively, for several reasons; among which the principal seems to be, that magnetism has at present fallen into the hands of the learned, whereas it was formerly under the domain only of quacks and the vulgar.

M. HUSSON's report was discussed at subsequent sittings of the Academy, for the purpose of ascertaining whether a new commission should be appointed; and as this topic is certainly one of the greatest novelties of the day, we shall give some account of the discussions, making free use of the report of them, contained in the Revue Medicale, Mars. 1826.

M. DESGENETTES, declared against the appointment of a commission, because he considered the magnetism of the present day, quite as much a matter of jugglery as that of 1784; and he informs us, that the publicity given to the report, had already increased the audacity of the magnetisers, who look on it as an approbation of their art.

M. VIREY, regretted that the report had not spoken in strong terms, against the ridiculous practices, and shameful jugglery, which disgrace the cause of magnetism; he wished the committee had announced an intention, to make only physiological, or psychological researches, on the influence, which magnetism really appears to exercise on the nervous system; and gave his voice for the formation of a commission of experiments.

M. BALLY, voted against it for several reasons, and among others, because of the fact announced by all the magnetisers, that the person who magnetises, acquires a sovereign power over the magnetisee; and he inferred from this, all the inconvenient and even dangerous consequences which may result to public morals! - - - - - Finally, he voted against it, because magnetism is ridiculed every where, because it is all darkness and confusion, and especially, because it being an inexhaustible mine of empiricism, the section ought not to lay open such a fertile field for those gentry who live by quackery.

M. Orfila, (eheu!) defended the propositions of the reporters. It is opposed, said he, on the three grounds following: 1st. Because the section has not been invited to the examination now recommended. 2nd. Because magnetism is nothing but juggling. 3d. Because commissions will not commonly do any work. The first ground is not correct: **M. Foissac**, a physician of Paris, has invited our attention to it, and offered to subject a magnetic somnambulist to its exploration; and very reputable physicians, members of the Academy, MM. **Rostan**, (the ramollissement man, is his head soft too?) and **Georget**, have in their recent publications called the attention of the learned to this subject. Secondly, if there be any jugglery, in the magnetic phenomena we are told of; it is nevertheless certain, that the whole of them are not simulated. The testimony of well taught physicians, ought to be received on this head. That the phenomena are extraordinary, is no argument; for those of electricity must have been quite as marvellous, at the period of their discovery, &c. &c.

M. Double, blamed the report as being nothing more than an apology for magnetism, which is tarred with the same stick as that of 1784, and only modified a little, by the esprit de notre temps, &c. &c. He said he had made magnetism a special subject of study, and *never saw a phenomenon produced by it*. - - - He thinks the commission could only do injury to science, and compromit the Academy, &c. &c. He would vote against the appointment, and advised the section to wait until some scientific memoirs should be sent to it.

M. Laennec, agreed with **M. Double**, because after studying the subject for twenty years, he is satisfied, that it is almost nothing but deception and juggling; although, when he commenced the study, he was prejudiced in its favour. According to **M. Laennec**, among the magnetic influences, there are several, attributable to the impressions, which one individual naturally makes on another in correlation with him; and he cited a mistake, which he saw committed by a somnambulist woman. She was magnetised by two persons, one of whom was handsome, but anaphrodisiac, the other ugly, yet possessing in integrity, the genital faculties. She received no impression, except from the first individual; so that the impression which this female had received by the organs of vision before the experiment, superseded that, which the pretended magnetic sense ought to have made on her. He thinks, the academy ought to *observe* the magnetisers, but what he has seen, has convinced him, that nine-tenths of the facts in magnetism are supposititious. The phenomena effected by magnetism, and the oracles uttered by the somnambulist, vary with every magnetiser. **Mesmer** excited convulsions; **Deslin** effected crises, such as are seen in diseases. The somnambulists of Mr. **Deleuze**, a learned man, are much better taught than those of **Puysegur**, who is ignorant of the sciences; and finally, Mr. **Laennec** has seen a somnambulist under the direction of a pharmacien, who was quite distinguished, by the art with which she compounded the medicines, she recommended. The discussion was now adjourned to the next sitting.

On the 24th of January, it was resumed.

M. **Chardel**, bears witness to the reality of the magnetic phenomena, as he has witnessed them himself, in a case of what is called somnambulism. He dares not pronounce on the question of magnetism, as a therapeutical agent; but is disposed to think it ought, if ever, to be used with great reserve. Whether it consist of nervous phenomena of a particular order, or whether it be a product of the imagination, in either case, it deserves to be studied, &c. &c.

M. **Ronchoux**, thought the proposed examination would be impossible; for the magnetisers assert, that if one of the parties have a will opposed to that of the magnetiser, no phenomena can be produced. Their confessed inability to surmount any opposite will, seems to Mr. **Ronchoux**, an invincible obstacle to any exploration to be attempted by a commission.

M. **Marc**, gave some explanation of the labours undertaken in Germany. According to the opposition, nothing conclusive can be derived from these labours; because Germany is the native soil of sects and of thaumaturgæ: but, Mr. M. proved by citations, that they are not to be attributed to excited imaginations, as has been urged, but to the most celebrated Savans of that country, as for example, **Oerstdt**, **Klaproth**, and **Hufeland**, to learned bodies, and to governments. The Royal Academy of Berlin, offered in 1818, a prize of 3300 francs, for an essay on this topic.

The governments of Prussia, Russia, and Denmark, have founded medical commissions for the examination of it, and subjected its therapeutical application to certain regulations. He thought, therefore, that the Academy could follow without compromiting its dignity, such good examples. He added, that the examination was absolutely necessary, unless they desired that every French practitioner should hereafter reject the whole subject, and for ever abandon its employment to jugglers and credulous fools.

M. **Nacquart** thought, that as magnetic somnambulism is something wholly independent of organical, physical, or physiological laws; that as the senses here have no need of organs; as time, space, and intermediate bodies, wholly disappear; we can avail ourselves of no method of appreciating magnetical facts, and consequently, the Academy ought not to trouble their heads about it—a very good joke truly: but

M. Itard said, that jokes had nothing to do with the question, because they are meant only for the abuses and extravagancies of magnetism; but we want to get at the truth, and to eschew the folly. Magnetism, says he, is either a real or imaginary agent; it ought to be examined. To refuse this, is to despise the path of experiment, which can alone lead to truth, &c. &c.

M. Recamier, could add nothing to the observations of MM. Desgenettes, Bally, and Double; but he wished the section to know, that he had been a witness to the magnetic phenomena—he had been present at the oracles of the marichale of M. De Puysegur, who was represented as the most lucid of all possible somnambulists. He had reason to suspect a cheat in this case, as he was denied the means of dissipating his doubts; and he heard this woman repeat what he had before said to the patient himself. How ridiculous, moreover, is it, to hear one drachm of glauber's salt prescribed as a transcendental remedy for phthisis pulmonalis! He also attended at the Hotel Dieu, at experiments made on one woman and two men. He saw the woman go to sleep (as was asserted,) at the simple will of the magnetiser, who for that purpose was concealed in a closet of the apartment. The only mode adopted, to prove that she was really asleep, consisted in some slight pinching of her ears, and some noises; yet, in the recital, these slight impressions have been transformed into most painful tortures. In the experiments made on the men, he employed a more powerful proof, which was the application of moxa; and that he did, because it was indicated by a coxalgia, with which the patient was affected: it is *a fact*, says he, that the man did not awake, or show *the slightest sensibility*. Mr. R. believes, therefore, in magnetical action; but does not think it can ever be available in the practice of physic. In Germany, said he, where magnetism is so much employed, do they cure better than elsewhere? And has magnetism been the occasion of any therapeutical discovery any where? In somnambulism there is only a disordered sensibility, and not an increase of it; and the pretended clairvoyance of the somnambulists, has no real existence, &c. &c.

M. Georget, cited in proof of the existence of magnetic power, the names of many physicians, members of the Academy, as MM. Rostan and Fouquier—he cited the experiments made at the Hotel Dieu, by Dr. Dupotet, in the presence of many members, who had signed the results, as MM. Husson, Geoffroy, Recamier, Delens, Patissier, Martin, Solon, Bricheteau and Kergaradec. If there be any analogy between magnetic and natural somnambulism, ought we to be astonished at the production of the former by certain practices? The magnetisers conceal nothing, but publish all their proceedings, and do you call these the tactics of jugglers and charlatans?

M. Magendie thought the examination expedient, and wished commissioners to be appointed to examine the somnambulist, offered by Dr. Foissac.

M. Guersent was in the affirmative: he himself had magnetised, and witnessed several phenomena, &c.

The discussion was then adjourned to the next setting, and on the 14th February, after hearing M. Gasc against, and M. Lherminier for the report, M. Husson the reporter was heard. The section then closed the discussion, and it was decided by a majority of ten, (35 to 25,) that a commission should be appointed to examine animal magnetism.

We are indebted for the above account to the Revue Medicale for March —the No. for February, also contains a review of M. Dupau's Lettres Physiologiques et Morales sur le Magnetisme Animal, 8vo. Paris, 1826. In order to show our readers how they manage these matters, we shall translate the following from p. 269.

"Here, says M. Rostan, is an experiment that I have often repeated, but which I was finally obliged to interrupt, because it fatigued my somnambulist prodigiously, who assured me, that if I continued, it would make her go mad. This experiment was made in presence of my colleague and friend, M. Ferrus. I took my watch, which I placed three or four inches from her occiput. I asked my somnambulist, if she saw any thing: "certainly, I see something that shines; it hurts me." Her countenance was expressive of pain, and ours expressed astonishment. We looked at each other, and M. Ferrus breaking silence, said, if she sees something shine, she can doubtless tell what it is. "What do you see that shines?—Oh! I don't know, I can't tell. Look at it well—Stop, it fatigues me, wait—(and after a moment of great attention) *It's a watch.*" More astonishment. But, if she sees the watch, said M. Ferrus, she will doubtless see what o'clock it is. "Could you tell me what o'clock it is?—Oh! no, it is too difficult." "Look at it, try." "Wait then, I'll try; may be I can tell the hour, but I never shall be able to see the minutes;" and after the greatest attention—"It wants ten minutes of eight o'clock;" which was exact. M. Ferrus now desired to make the experiment himself, and repeated it with the same success. He made me turn the hands of his watch several times, and when presented to her (occiput we suppose,) without her having seen it, she never made any mistake."

These statements we have thought fit to lay before our readers, who will observe the respectable names which are connected with them. We shall seize the first opportunity to give the report of the new commission, and if they confirm the miracles, we can still say, credat Judaeus apella. If it will make no cure, it will probably make much pay; since Mesmer got upwards of 340,000 francs for his mumming exhibitions, to the *spectacle* loving quidnuncs of Paris. The commission consists of 11 members, viz. Leroux.

BOURDOIS, DOUBLE, MAGENDIE, GUERSENT, LAENNEC, THILLAYE, MARC, ITARD, FOUQUIER and GUENEAU DE MUSSY.

36. *Sketch of the Medical Literature of Denmark, Sweden, and Norway—by* Dr. C. OTTO, *of Copenhagen, apud Bulletin des Sci. Med. Feb. and March.*—"Denmark is richer in medical literature, than the other countries which in conjunction with it, composed the ancient Scandinavia. Although it does not in this respect, bear a comparison with France, Germany, England, and Italy, nevertheless, medicine, of all the sciences, seems to be that which is most successfully cultivated, and Copenhagen contains a great number of learned, and able physicians." In proof of what Denmark has done, Dr. O. refers us to the great names of the two BARTHOLINS, of STENO, of WINSLOW, of CALLISEN, &c.

"In the 16th century, Denmark possessed the anatomical works of the two BARTHOLINS: (*Instit. Anatomicæ de vasis lymphaticis, &c.*) and other works of the same kind, which have been translated into all the languages of Europe. STENO, the disciple of THOMAS BARTHOLIN, followed the career of his master, with an equal success. HALLER never spoke of this anatomist, without the highest admiration. RODE enriched the literature of Germany and Denmark, with works which have made his name illustrious, wherever science is cultivated. Among these, we may chiefly distinguish his Bibliotheca, and Materia Medica." The Danes are indebted to him for several popular works on medicine, which are in the judgment of Dr. OTTO, chef d'oeuvres of this sort of writing. He published more than 13 volumes on these topics. "To the celebrated CALLISEN, who is recently deceased, we are indebted for 1st, a *Systema Chirurgiæ Hodiernæ,* a work of the highest merit, and which has reached a fourth edition. 2nd, a Medical Topography of Copenhagen, published in Danish. (2 *vols. 8vo. Copen.* 1807.) 3d, the Director of the Academy of Surgery. He is also the author of several important memoirs, inserted in those of the *Roy. Soc. of Sciences,* of Denmark, and in some other collections. The late professor MATH. SAXTORPH, composed an excellent *manual of labours,* for the use of midwives. A second edition with plates, appeared in 1804. T. L. BANG, has given a *Praxis Medica,* an excellent guide to young physicians in their first outset in practice. HERHOLDT has shed some lustre on Danish Physiology: his dissertations on the life of the fœtus, and on the question, whether vision is performed with both eyes, or with one only, bear testimony to his genius and penetration: he is also author of a memoir on penetrating wounds of the Chest, inserted, as well as the former dissertation, and many other pieces, in various medical journals.

"TYSCHEN published in 1804, a *Treatise on Pharmacy,* in Danish; and professor MYNSTER, gave a work on Pharmacology, of which two volumes only had appeared, when death interrupted his useful labours. In 1794, he commenced the publication of a journal, the *Bibliothek for Physik Œconomic og Medicin,* which was continued in 1799, by BAHN, and afterwards under several names, till 1807. We now come to the existing state of Danish medical literature.

"The Royal Medical Society of Copenhagen, which, without contradiction, holds the first rank among those of Scandinavia, celebrated its 50th anniversary in 1822. It publishes at irregular periods, its memoirs, under the title of *Nova Acta Societatis Medicæ Havniensis*. The last volume appeared in 1821. Professor Jacobsen, is ardently devoted to the study of Comparative Anatomy, and has published several works on the subject, inserted in the Mem. of the Roy. Soc. of Sciences, extracts from which have appeared also in several foreign journals. The collection we have just now cited, (for 1824, V. I.) contains a memoir of Dr. Gartner, which confirms the opinion entertained by the ancients, as to the presence of a glandular body in the uterus of some animals. The author has added a plate to this interesting dissertation. Dr. Otto has enriched the physiological sciences with his *Phrenology*, and is zealously occupied with all that relates to this subject. Professor Wendt, physician to the General Hospital of Copenhagen, has recently published several small medical works. We may cite his *Historical and Chemical Supplements, to the knowledge of some therapeutical agents, of the class Euphorbiæ;* some notices on *small pox, vaccina*, and *modified small pox*.

"Denmark possesses three periodical journals of medicine, without counting those of the Royal Societies of Sciences and of Medicine of Copenhagen. The first and best of these journals, is the *Bibliothek for Læger*, published by a society instituted for the advancement of medical studies. Classen, the founder of this association, bequeathed to it a sum of money, to purchase annually, some foreign medical works. This collection is composed of original memoirs, extracts, and announcements of other works, and a review of the *course* of the faculty of medicine. It is specially consecrated to the practical department of the art—(three numbers per ann. of 70, to 100 pages each.) The 2nd collection, is the *Nye Hygæa*, the editor of which, (M. Otto,) embraces in his plan, all the medical sciences. This journal, although specially devoted to physicians, is in reach of all those persons of education, who can be interested in a variety of important medical questions. It contains original memoirs, and extracts from foreign works, (five leaves per month.) The 3d collection, Archives for the History of Medicine in Denmark, (*Archiv. for lægevidens kabens historie in Danmark*,) does not appear periodically, but at indefinite times. Professor Herholdt, the editor, has only published one number, in 1823.

"As to inaugural dissertations for the doctorate, the number amounts only to three or four in the space of ten years; because the title of M. D. is not requisite to the practitioner in Denmark."

The above is taken from the Bulletin for February, the ensuing portion of the sketch is contained in the March number of the same journal.

"The medical literature of Sweden, must have been very insignificant in past ages, if we may form an opinion, from the total want of documents in relation to it. There existed no scientific lien between the physicians of that country, or even among those of the capital. A medical society might in vain have been sought for there, at a period, when they were common in all other countries. The Royal Academy of Sciences, published some essays relating to medicine, from time to time, but until 1807, a work on this topic was regarded as a sort of rarity. However, in the course of that year, seven physicians of Stockholm, united in order to found a society, which received the royal sanction, and took the title of *Svenska Lœkare Sœllskapet*, (*Society of Swedish Physicians.*) This institution, seemed to communicate to the practitioners of Sweden a new existence, and then really commenced the æra of medical literature in that country. The number of works published since that period, has scarcely amounted to more than one or two per annum. Dr. RABEN is the author of three works, which, though not large, give evidence of considerable knowledge and penetration: Their titles are: 1st. De præcipuis causis mali Scrophul. ejusque remediis Commentation. Lund. 1807. 2nd. A second volume on the same subject, written in the Swedish language, Lund. 1819. 3d. Observationes in Syphilidem, ejusque curationem, ubi novæ quoque proponuntur curandi rationes. Lund. Goth. 1821.

"We shall also mention among the works recently published in Sweden, 1st. A biographical and literary gallery of the physicians of that country, from the reign of Gustavus I. down to our own times, by Dr. J. F. SAKLEN. 2nd. FLORMANN's Manual of Anatomy. Finally, a collection of the laws of the kingdom, which relate to medicine. The Medical Society of Stockholm, regularly publishes its transactions, *Svenska Lœkare Sœllskapets Handlingar*, the 10th vol. of which has just appeared. In it, are some remarkable cases, a table of the constitution of the atmosphere, and of the diseases which have prevailed at Stockholm, and in its environs; reports on the hospitals and baths of the whole kingdom; extracts from Medico-legal Examinations, recent discoveries, &c. M. ECKSTRÖM promises to publish a complete description of the variolous epidemic, which prevailed last year at Stockholm, and in the provinces. Besides these transactions, the secretary makes an annual report, on what passes at the sittings. To this he adds, short notices of the most interesting recent discoveries and observations, which he derives from foreign medical literature. He publishes this collection once a year, and adds some nosological articles. In closing this review, we ought not to forget to mention the collection of theses, defended at the university of Upsal, which is published yearly by Dr. ZETTERSTRÖM."

37. *Erysipelatous Mumps or Angina Parotidiana.*—Dr. BEHR of Bernberg, has published in the *Journ. der Pract. Heilkund for July*, 1825, an account of this disease, which we find in the *Bulletin* for Feb. 1826. Dr. BEHR's "memoir is intended to pourtray the principal features of an epi-

demic prevalence of parotitis at Bernberg, in the months of December, 1822, and January and February, 1823. Dr. B. attributes it to the frequent and sudden variations of the atmosphere at that period." He says, "the disease is so rare in this country, that physicians of 30 years standing had never met with it before." Bernberg contains 6000 souls; it is divided into two parts by the Saale, and it is situated on the great road from Leipsic to Magdeburg, in a narrow valley, which runs from N. W. to S. E.

The precursory symptoms were rigors followed by heat, heaviness of the limbs, pains in the joints, especially in the evening, sense of tension in the region of the lower jaw, and sometimes a difficulty in mastication. The appetite was usually natural, with gastric symptoms only in the most severe cases. On the evening of the 3d day, there was an increase of uneasiness with chills and heat, after which the patient commonly enjoyed sweet sleep. The next day, on awaking, he felt tolerably well, and had no more sense of heaviness in his limbs, but his face was swelled on one or both sides. Speech and mastication were effected with difficulty; the lower jaw was *comme engourdie*, and a dull pain was felt in the ligaments of the joints; the tumefaction increased and soon extended from the ear to the cheek. On a careful examination, it was found to affect the parotid gland, and the surrounding cellular tissue. The tumour was hard, diffused, and not very painful, except on pressure. The colour and temperature of the swollen part were natural. In the evening, the pulse became hard and accelerated, the tongue white, the stools more consistent than common, and the urine pale. The following night he was agitated, frequently awakened by lancinating pains in the affected part, and sometimes by a sense of tension in the head. The following day, the tumour reached its maximum of elevation, and sometimes comprised the submaxillary glands of the same side. From this time, the pains did not increase, and the skin became slightly red only in a very few examples.

The disease having thus reached its acme, a gentle sweat commenced behind the ears, then extended over the whole tumour, and remained as long as the swelling lasted. This evening there was no fever, but a gentle perspiration continued throughout the night. The day following, being the 6th of the disease, the tumour was evidently diminished, and continued decreasing until its final disappearance, which occurred on the 9th, and sometimes on the 7th day. Until this period, abundant local perspirations in the day-time, less abundant, but more general ones in the night, were observable. When the disease was critical by urine with sediment, the diminution of the swelling was dated from this appearance; but the resolution was not perfected in some cases till the 14th day, and in such cases, the integuments of the part were covered with a mealy desquamation. Dr. Behr did not observe any metastasis to the genitals, but he saw cases, in which the disappearance of the swelling, was followed by considerable fever with *augoisse*, and then an œdema, commonly situated on the head.

He often saw the termination by induration, but this soon yielded to a proper treatment. As to the contagion of mumps, the author thinks, it can only occur where there is desquamation of the integuments; and remarks on the analogy of this circumstance, with what occurs in scarlatina. Dr. Behr thinks, that antiphlogistics are rarely indicated in the treatment of parotitis.

38. *Tænia.*—In several cases in which gum. gutt., salts of tin, and other medicines, were unsuccessfully used for the expulsion of tape worm, Dr. Bougard succeeded in expelling them with pills compounded as follows: Merc. dulc. Extr. aloes, aa. gr. iij. divided into three pills. This dose was given every evening for eight days, and gradually increased or diminished, so as to procure three stools per diem. A rigorous diet was observed during this treatment.—*Rust's Magazin fur die gesamte Heilkunde apud Bulletin des Sci. Med. March,* 1826.

39. *Scrophula.*—Dr. Wetz recommends the employment of caustic potassa in scrophula. He dissolves x grs. of caustic potassa in one ounce of orange-peel water, and gives from xij to xx gtt. four times a day, in a cup of broth. A solution of caustic potassa in six ounces of distilled water, is applied as a wash to the ulcers.—*Ibid.*

40. *Digitalis.*—We find in the Propagateur des Sciences Medicales for Feb. 1826, an account of the directions of Dr. Neumann of Berlin, for the employment of digitalis in pulmonic diseases: they are said to be the result of long experience. Digitalis is useless, says the writer, in all cases of suppuration of the lung, consequent to tubercles of that organ. It is of no avail in those suppurations, which succeed inflammatory hæmoptysis. It is employed without success in *local* phlegmorrhagies of the lungs; but it almost invariably cures those chronic catarrhs, which depend on a state of erethism of the mucous lining of the bronchiæ. This disease is sometimes called chronic bronchitis, sometimes mucous consumption, pulmonic catarrh, and galloping consumption. If the diagnosis in this case be well made out, hopes may be entertained of a cure, one of the two following conditions being present:

A. The patient must be susceptible of the stimulant action of the remedy: this is often not the case. We may be sure the digitalis will not produce its effect, where the pulse of the patient remains *uniform and frequent after he has taken it for several days.* It does not suit such persons.

B. The medicine ought to be administered in a proper manner. To be good, the leaves, even in the dried state, should be perfectly green and free from any brown spots. Two ounces of the leaves, should be infused in six ounces of boiling water; and the patient may take a table spoonful every hour, until he feels nausea, or a sense of constriction in his throat, or flashing of the eyes, or irregular pulse. The use of the foxglove should then be interrupted for seven or eight days, in which interval, the full action of the medicine is developed, the pulse remaining irregular, and the mucous secretion diminishing gradually. If the first trial does not remove it entirely, a second course may be commenced after a few days.

V. SURGERY.

41. *Dr. Physick's operation for artificial anus, denied to have been performed!*—We have often had occasion to remark the claiming, and, we fully hope, the actual re-invention of American operations and practices among physicians on the other side of the Atlantic. As we are not a publishing people, it is, perhaps, not very strange that the French and English should be generally unacquainted with the discoveries and inventions which have been made among us; but here comes an actual denial of the invention having ever taken place!

Every American who has any pretensions to the character of a surgeon, is most probably familiar with the proposal and performance, by Dr. PHYSICK, of a peculiar operation for those cases of artificial anus, where the two ends of the divided or opened intestine adhere laterally to each other, in the manner of a double-barrelled gun. We are now told that M. RICHERAND, in his new work "On the recent progress of Surgery," "avoids giving this the least confidence." (Archives Generales, Janvier, 1826.) The reviewer in the Archives, in a paroxysm of angry jealousy for the honour of French surgery, deeply wounded, as he conceives, in the *admissions* by M. RICHERAND of discoveries and inventions among the English and others, adds no small amount of ill-nature to this unworthy intimation, and makes the observations which we have translated below.

It is certainly an easy method of erecting reputations, to deny, directly, the priority of others in operations which a favourite has repeated. No matter though the knowledge of this priority be widely diffused; if readers can, by means of national predilections, be induced to place confidence in your denial, the effect, as far as relates to them, is completely obtained. Yet one would think it an ungenerous act, to call in question, and before partial judges, the veracity of such men as are here named. Where a physician reports cases which agree too well with his preconceived theories, we doubt the correctness of his observations; and with justice: for we know that an already formed belief will greatly tinge the most honest seeings and hearings of very sensible and honourable heads. But this is a far different thing from impeaching, in a manner entirely gratuitous, the moral honesty of the record of a historical fact, made by men at the head of their profession.

The reviewer, Mr. and probably Dr. L. C. ROCHE, comments as follows:

"1. Dr. PHYSICK never published any thing on this subject.

"2. Dr. Dorsey, who makes the claim for him, never published the work in which he does so, [the Elements of Surgery,] till 1813.

"3. In the English journal (?) and in that work, he contents himself with a simple assertion, without giving either the date of the operation, the name, age, or sex of the patient, the names of his assistants, or the details of the operation; *all points which men never forget to make known, when treating of the first attempt in a new operation of this importance.*"

To the first of these comments we reply, that Dr. Physick, to the great regret of his countrymen, has never been in the habit of publishing; but still possesses many useful improvements in medicine and surgery, which he has not committed to the press. On the other hand, however, he has taught this operation annually, to from three to four hundred pupils, in his lectures, during about twelve successive years; and this is no mean substitute for a publication in types. M. Roche's memory will supply him with an instance of an eminent French surgeon, whom we shall not attempt to defraud of his laurels, who also made it his practice to leave the publication of his observations and improvements to his pupils.

To the second remark, the above is also a sufficient reply; but we will add that it was recorded in the case book of the Pennsylvania Hospital in 1809.

Our comment on the third observation of Mr. Roche may be brief. It is that we promise an account of the case for the next number of this Journal. In the mean time, the patient was well known to us and to many persons now living. The operation was performed in 1809.

In reply to that portion of the last observation, which we have marked with italics, we can assure the reviewer that he is mistaken; at least with regard to this side of the ocean. We Americans are a very peculiar people, and but little affected, as yet, with the cacoethes scribendi; a malady which the present work, in its humble sphere, is designed to disseminate. We are not in the habit of frequently publishing, and above all, of publishing volumes. Books are dear, private libraries small, public ones few, and encouragement for even the best original publications but limited. Of this we have known some melancholy instances. It is impossible for either a Frenchman or an Englishman to judge correctly of a country, which, in many important respects, is in such a different situation from his own.

It is a thing of by no means uncommon occurrence here, to make a valuable discovery or improvement in the healing art, and not to make it public. A striking instance of this fact, at least with the exception of the insertion of an imperfect account in the Eclectic Repertory, which very probably never reached England, is mentioned in our last number. We allude to the extirpations of diseased ovaria, by Dr. M'Dowall, of Kentucky. Here a unique and brilliantly successful operation was performed, successful as yet beyond European imitations, and still the inventor and achiever of it did not possess vanity or industry sufficient to treat the public with a full account of it. M. **Roche** may find it hard to explain modesty of this species; but we can promise him, should these sheets ever reach his eye, and he still continue skeptical, abundance of proofs, and some more instances of the same kind.

42. *Gangrenous Sore Mouth of Children.*—Dr. **Coates** begs permission to add the following quotation from **Fabricius Hildanus** to the authorities quoted in his paper on gangrenous ulcer of the mouth, at the commencement of the present number.

"Gingivarum inflammatio maxime in infantibus in gangrænam interdum degenerat. Morbus enim magnus, vehemens et peracutus; magna quoque requirit remedia: sed quis illa in ore adhibere ausus?"—*De Gangræna et Sphacelo. Cap. IV. p. 773. col. 2. Edit. Beyeri. Francofurt. ad Mæn.* 1646.

"Gangræna in partibus humidis, gingivis, palato, naribus, &c. raro sanabilis; in sphacelum autem degenerans, insanabilis."—*Cap. XI. p.* 781. *col.* 2.

This is all I find in that author, relative to the subject.

43. *Operation for Phymosis.*—M. J. **Cloquet**, has so improved this operation that no deformity results. He recommends the incision to be made at the *inferior* surface, near, and parallel to, the frænum præputii. The longitudinal wound thus made, becomes transverse, as soon as the prepuce is drawn behind the glans penis, and cicatrizes in a line scarcely visible; so that the prepuce acquires in breadth what it loses in length. M. **Cloquet** has, in this way, perfectly cured many patients; the prepuce appearing to possess its natural conformation.—*La Propagateur des Sci. Med. for March.*

44. *Lunar Caustic on Wounds and Ulcers.*—The practice of healing wounds and ulcers by natural or artificial scabs, to which the attention of the profession was first directed by Mr. J. **Hunter**, has been too much neglected, and the circumstances under which it is useful, have not been accurately stated. In a small work published by Mr. **Higginbottom**, in January last, at London, the practice of forming an *eschar* by the lunar caustic over small ulcers and recent wounds, has been strongly recommended as saving the patient much pain, trouble, and danger. The whole surface is to be pencilled with the solid caustic so as to form an eschar, and where this remains *adherent*, the wound or ulcer invariably heals with comparatively little inconvenience. When effusion occurs under the eschar, whether of serum or of pus, there is more difficulty; but if this fluid be evacuated by a puncture, and the caustic applied to the orifice, the eschar will often remain adherent. Sometimes the fluid must be frequently evacuated. If the eschar does not separate favourably, a cold poultice may be applied, which not only removes the eschar, but lessens the irritation and inflammation. Should the sore not be healed, Mr. H. recommends the reapplication of the caustic. To prevent effusion under the eschar, and to preserve it adhering, he advises the whole to be covered with a piece of

gold-beater's skin; but we may add, that as this effusion arises from too much inflammation, more powerful means may occasionally be employed, especially a solution of acetate of lead. LARREY recommends with the same view, after the application of moxa, the use of the aq. ammoniæ. Indeed any evaporating, cold, astringent lotion will be advantageous.

The application of the caustic, of course, produces some pain, but this soon subsides, and the patient experiences more ease than under any other mode of treatment.

Particular cases in which the Caustic is useful.—In punctured wounds, it should be applied to the orifice and surrounding skin, and the eschar allowed to dry. The terrible effects of punctured wounds, are thus completely prevented, whether caused by needles, hooks, bayonets, &c. So also of wounds from saws; of bites from leeches and animals; of the stings of insects; and especially of those small scratches, and punctures, received in *anatomical dissections*. The danger of these last mentioned accidents may, according to Mr. H., be completely arrested by the prompt and free application of the lunar caustic. Even in neglected cases, when a small tumour has formed under the skin, attended with a smart stinging pain, he advises the tumour to be removed, and an adherent eschar to be formed by the caustic; and in still more neglected and advanced cases, where inflammation of the absorbents has supervened, "a free crucial incision is to be made, the caustic to be freely applied, and afterwards, the cold poultice and lotion; the usual constitutional remedies being actively enforced."

In *bruises*, especially of the shin, the adherent eschar from lunar caustic, has, with Mr. H., always effected a cure; and even when a slough has been produced, the application of the caustic will moderate the inflammation.

In *ulcers*, which are small, not exposed to friction or motion, and discharging little, the cure by eschar will be preferable; especially in those little irritable and painful ulcers often seen about the ancle and tendo Achillis. Apply first a cold poultice, and then form the eschar, which may be freely exposed to the air. Should the matter, nevertheless, collect, it should be evacuated by puncture as often as necessary, until the eschar remains adherent.

This practice is recommended by Mr. H., in various other affections; as in inflammation of the fingers; in the fungous ulcer of the navel in infants; in *tinea capitis*, &c. In this last case, we have ourselves used it with marked advantage. In all cases, the lunar caustic has a decided effect in *diminishing the irritability* of the parts to which it is applied; and hence should usually be preferred for the purpose of forming a "*scab*," for such the eschar really is, in a practical view; and we think that our author has hardly done justice to nature's methodus medendi by "scabbing;" while he so ably and strenuously recommends his own imitation of her process. Scabs may be formed by the coagulation of blood; by the drying of mucus or pus; and by the formation of an eschar, by the actual or potential cautery. The surgeon may frequently reduce parts to the same situation, by the use of gold-beater's skin, court-plaster, or other unirritating applications, which prevent exposure and evaporation. In all cases, care must be taken to prevent the surrounding inflammation from transcending the adhesive stage.

45. *Hæmorrhage from Lithotomy.*—In the London Med. and Phys. Jour. for Jan. Mr. John Shaw has published an account of a patient, who unfortunately perished from hæmorrhage, in consequence of being cut for the stone. The parts being injected after death, it was found, that the bleeding proceeded from the *unusual distribution* of a branch of the pudic artery, which traversed the neck of the bladder, and lay directly in the way of the incision. The pudic artery was uninjured.

46. *Extirpation of the Parotid Gland.*—The best surgical writers have condemned this operation, if not as absolutely impracticable, nevertheless, as too dangerous to be ever attempted. Successful cases have however been reported, and Mr. A. Cooper, in a letter to the operator in the following case, avers, that he twice removed the parotid gland in one year. Mr. Kirby, late president of the Royal College of Surgeons in Ireland, in a work published in 1825 at Dublin, on hæmorrhoidal excrescences, has given the details of a diseased parotid, and of the operation for its removal. We condense from Johnson's Review for April, 1826.

The patient was a poor female, aged 40, who had a tumour extending from above the zygoma downwards on the neck, two inches below the angle of the jaw, stretching as far forwards as the anterior edge of the masseter muscle, forcing the ear backwards, and raising it outwards from its natural position. Above the surface, it was about the size of a goose-egg; immoveable; painful when handled; irregular on the surface, and of a deep livid colour over the prominent points. Pains of a lancinating character, extended over the head and neck, producing sickness and want of sleep.

The operation was performed chiefly by the fingers and the handle of the knife, after dividing the integuments by a crucial incision. The branches of the portio dura were of course divided, and great embarrassment arose from a copious hæmorrhage, caused by the bursting of the tumour, while Mr. K. was rooting it out from between the pterygoid muscles. The bleeding was restrained by the finger of an assistant, and the complete extirpation of the diseased gland was effected. Mr. Kirby says, "the space between the pterygoid muscles was void—the auditory tube was fully exposed—the articular capsule of the jaw was brought into view—the finger could trace the length of the styloid process, and on sponging the wound of its blood, it could be seen by those who surrounded the chair." The hæmorrhage was restrained by a sponge firmly lodged at the
b nd, covered by compresses of lint, and the whole secured
d roller.
much exhausted, slept tolerably well the next night,

complaining of thirst and inability to swallow. On the 2nd day, inflammation, swelling, and fever followed—erysipelas appeared on the neck—patient lethargic—pulse small and frequent. Fourth day, suppuration—symptoms improving—no relapse. The patient completely recovered, without any regeneration of the tumour.

In FERUSSAC'S Bulletin Universel for Jan. 1826, we observe the following notice, from a German Medical Magazine, conducted by M. D. Schmidt.

A female, aged 33 years, had suffered for 9 years from a diseased parotid gland, which had gradually attained a large size. It was extirpated by Dr. PRIEGER, and the patient soon returned home in good health, and little disfigured. The tumour measured 8 inches in circumference, and weighed three and a half pounds. (Livres.)

Dr. PRIEGER had previously extirpated a scirrhous parotid successfully. M. WIENHOLD affirms, that he has extirpated three parotids; the details of these operations are published. M. SCHMIDT, however, suggests some doubts, as to the *nature* and *seat* of the tumours removed.

47. *Aneurism from a Wound, cured by Valsalva's method.*—This interesting and valuable case, is condensed from Le Propagateur des Sci. Med. for March, 1826. M. Antouard, a healthy female, æt. 18, was wounded on the 18th of June, 1825, by a poniard, in the left carotid artery, below the superior extremity of the sternum; the instrument passing obliquely inwards and downwards. The anterior and lateral portions of the neck, were enormously distended with blood, and syncope supervened. Four days after the injury was received, an aneurismal tumour was observed at the edge of the sternum, the surrounding effusion being greatly diminished by absorption; and at the expiration of a month, when she was first seen by Dr. SOUCHIER, it was of the size of the two fists of the young female. The pulsations at this time, were nearly equal over the whole surface of the tumour; but rather more distinct over the orifice in the vessel. The surrounding blood was entirely absorbed. No pain was experienced, unless from the pressure of the swelling; from which cause also, resulted a troublesome and continued headach. Dr. SOUCHIER, not believing an operation adviseable, during the warm season of the year; and on a tumour, situated so much under the sternum, determined to fulfil the following indications: 1st. To lessen the quantity of blood; and thus, to diminish the stimulus to the heart, the projectile force it exercises, and consequently, the rapidity with which the blood escaped from the ruptured vessel, and the impulse hence imparted to the sides of the tumour, preventing, in some degree, the coagulation of the blood. 2nd. To increase the effect of general and local bleeding by the use of *cold*, of *pressure*, and especially, of the digitalis purpurea: that thus the force of the circulation may be lessened, the blood allowed to coagulate, and a radical cure be accomplished.

Mademoiselle Antouard, determined to yield herself to this plan, and was directed: 1st. Rice-water, acidulated with lemon-juice, and an infusion of mallows, for *food* and *drink*. 2nd. To employ frictions on the abdomen, and on the insides of the thighs, morning and evening, with eight grains of the pulverized leaves of digitalis, previously macerated for 24 hours in a sufficient quantity of saliva. 3d. To apply every day 12 leeches, near the aneurismal tumour, and after favouring the flow of blood by emollient fomentations, to cover the part with compresses, wet with a saturated solution of the acetate of lead, to be frequently renewed, so as to be kept below the temperature of the skin. 4th. The effect of these means to be augmented by pressure, made by means of the base of a glass tumbler, fixed by the hands of assistants; and 5th. To be kept at rest, and in perfect silence.

Fourth day of treatment, being 2nd of Aug. 1825. Pulsations more central; tumour very sensibly diminished; pulse less strong and reduced from 86 to 74 in the minute; the menses, which had been suppressed for two months, appeared on the 31st ulto. and still flow. *Prescription*, V. S. ℥xviij. next day, twelve leeches, on the lateral parts of the tumour; gr. xxiv. of digitalis in three applications through the day. Continue ut supra.

Aug. 8th. Patient tranquil; pulse 60, full, not active; face not flushed, but preserving a delicate tinge of red; headach now slight; no nausea; menses continued until the 6th inst. *Prescription*, V. S. ℥xij.—fifteen leeches to-morrow; increase digitalis to gr. xxviij. daily; the rest, ut supra. The tumour has diminished at least one-fourth.

Aug. 12th. Tumour reduced to 3-5ths of its former volume; pulse at 56; her nights are comfortable; has some headach, and lately, cardialgia; complains of hunger and weakness, and from the fatigue of her assistants, the pressure was made with a bandage less effectually than before. This was allowed, as the pulsations are weakened, and more and more central, while the elevation of the tumour is trifling. For fear her health might be injured, she was permitted to rise a little from bed, and to add to her rice water, some light jellies, (crémes) made from the same grain. V. S. ℥x. and every 2nd day, eight leeches around the tumour; digitalis increased to 32 grains daily; warm pediluvium for one hour, morning and evening; silence as complete as possible.

Aug. 18th. No tumour visible; pulsations can yet be felt; the skin is thickened; pulse at the wrist is at 50. V. S. ℥viij.—six leeches every 4th day until menstrual period; digitalis reduced to gr. xx. and still to the same parts; continue the pressure; allow some rice jelly, vermicelli soup, gentle exercise; silence to be preserved, continue pediluvium, and relieve constipation by simple enemata.

In 15 days, Dr. Souchier again visited his patient. It required an experienced hand to distinguish, at the spot where the artery was cicatrized, an elevation rather more evident, than over the rest of the artery. Pulse 48 per minute; hunger great, and the remedies now unpleasant. Most of them were suspended, and fruit and the white flesh of poultry added to her diet list. The digitalis reduced to 12 grains a day. Compression, silence, and moderate exercise, to be continued as before. The menses appeared at the expiration of twenty-five days, and were more abundant than at the last period.

At the end of a month, no trace of the tumour was discoverable. The young lady had carefully increased her nutriment and exercise without inconvenience, and all remedial measures were now omitted.

During the months of December and January last, she remained free from any inconvenience from the tumour, and the union of the parietes of the artery was therefore regarded as complete.

In the above account, we have only to regret that the state of the artery above the tumour, before and after the treatment, had not been noticed. Perhaps this may be supplied by Dr. Souchier, in the commentary, which he proposes publishing on the above case.

48. *Protrusion and Wound of the Stomach.*—Mr. Travers, in the Edin. Journ. of the Med. Sciences, for Jan. 1826, relates, that a female, aged 53, and the mother of *nineteen* children, inflicted on herself a wound in the abdomen, three inches in length, and in a transverse direction. When admitted into St. Thomas' Hospital, at the expiration of six hours, the greater part of the large curvature of the stomach, the arch of the colon, and the entire large omentum, were protruded and strangulated in the wound. The omentum was partially detached from the stomach, which organ was wounded in two places; one, half an inch long through the peritoneal coat; the other, a perforation of all the coats, admitting the head of a large probe, and giving issue to a considerable quantity of mucus. Patient faint; pain slight; pulse 102, and irregular; some hiccup. A silk ligature was placed round the small puncture in the stomach, and the displaced viscera returned, after enlarging the external wound. This last was closed by the quill suture. Warm fomentations and abstinence from food and drink enjoined. 2nd day, some re-action; had been sick in the night from some drink given; is free from pain; pulse 120; pain on pressure: an enema ordered. *Evening*, a dose of castor oil, and twenty leeches to the abdomen. 3d, much fever; V. S. ℥xviij. and 20 leeches to the abdomen; bowels not opened. 4th day, two stools; pulse 98; tension of the abdomen; three more stools during the day. 5th, sutures removed; wound united, except at its right extremity, where a serous fluid is discharged in considerable quantities. On the 6th day, was allowed food, and on the 23d of Dec., about two months after the accident, was discharged cured.

49. *Œsophagotomy.*—This operation has been objected to, not only on account of the dangers attending its performance, but from the alleged difficulty of promoting the union of the wound in the œsophagus; as it is seldom at rest, the lips of the incision being often separated, and the mucous coat adhering with difficulty under any circumstances. Hence we are induced to notice the following case, in which the operation was success-

fully executed on an inferior animal, by M. Felix, a veterinary surgeon of Bergclac. The account is published in the Feb. No. of Le Propagateur des Sci. Med.

A *Cow* was threatened with immediate suffocation from the lodgment of a potato in the œsophagus. It had shortness of respiration, an incapacity of swallowing even its saliva, which flowed from the mouth, was in great distress, and covered with a cold sweat. Being properly secured in a horizontal posture, an external incision was made on the inside of the sterno-mastoid muscle, and a cautious dissection practised until the tumour was completely exposed, The œsophagus was divided by "an incision extending the whole length of the foreign body, which was extracted without any force, *which is almost always fatal.* I immediately made two close sutures; and also two others in the skin, on each side, adapting to them two pieces of packthread, more easily to fix the dressings. I dressed the wound with brandy, filling the opening with hemp soaked with brandy." The animal was kept on very little food or drink. On the third day the wound was dressed for the first time, and a digestive ointment applied.

In the course of the 2nd week, the cicatrization of the œsophagus occurred; the part was dressed with lint; and by the 20th day after the operation, the animal was quite restored.

This case would have been more useful, if more precision had been employed in describing the dressing and subsequent treatment of the wound. It would seem that the sutures were passed through the parietes of the œsophagus only, and that the external wound was kept open by being filled with tow. Certainly, union by the adhesive inflammation ought to have been attempted in all parts of the wound; but whether sutures in the œsophagus are advantageous, or whether the uniting bandage be preferable, is not so easily determined. In the two cases described in 3d vol. of the Mem. de l'Acad. de Chirur. the uniting bandage was alone employed, and with success.

50. *Retention of Urine, caused by a Stricture of the Urethra, relieved by a forcible but gradual Injection.*—The editor of Le Propagateur des Sci. Med. in the No. for Feb. 1826, introduces the following case, by observing, that it reflects great honour on M. Amussat, and that his discovery merits the greatest praise. M. D . . . aged 70 years, of a plethoric constitution, had suffered about 30 years before from three attacks of gonorrhœa; since which period he has had a difficulty in urinating, and can never discharge more than one or two ounces of urine at a time.

At eight o'clock, P. M. of the 1st of Feb. he tried to urinate, but could not succeed. He suffered great pain. Pulse agitated; face flushed; belly swelled, and globular at its inferior part; the subcutaneous abdominal veins distended, and the penis in a state of semi-erection. All attempts to urinate were painful and ineffectual. At ten o'clock, A. M., on the 2nd, M. Amussat visited him, and passed a bougie. This was arrested by a contraction near the bulb of the urethra, and caused the discharge of some blood. No urine had been passed for 14 hours, while ordinarily he urinated 12 or 16 times through the night. The obstruction was so great, that none of the usual means of relief remained, except *the forcible introduction of the catheter*, or the *puncture of the bladder*. M. AMUSSAT resorted to the following plan which he had devised, and which completely succeeded. He injected warm water forcibly, but gradually, into the urethra, which, dilating the orifice of the stricture, forced backwards the thickened mucus which had obstructed it. As soon as the liquid injection met the urine, the patient cried out that he was saved, and immediately was able to urinate as formerly. At two trials, he discharged nearly two pints of thick urine. There was no return of the retention, the patient continuing well.

Should subsequent experience confirm this experiment of M. AMUSSAT, this simple measure will be a most valuable substitute for those dangerous measures hitherto resorted to for retention of urine, in cases where the obstruction arises from thickened mucus, from small calculi closing the orifice of a stricture, from inflammation, or from what are termed, (justly or not,) spasmodic strictures.

51. *Tracheotomy.*—In the Amer. Med. Review for April, Dr. JOHN ATLEE, of Lancaster, mentions that on Wednesday, Aug. 11th, he was consulted by a child ten years old, who had that morning, while running, put a button-mould into his mouth, which during respiration was drawn into the trachea. He complained of uneasiness in respiration, with a slight rattling, and pointed towards the upper part of the sternum, as the situation of the button. On coughing, a rattling was heard, and immediately after, a sudden check to expiration, from the lodgment of the button near the rima glottidis, requiring a sudden and violent effort of inspiration to remove the sense of suffocation. An emetic was given with no advantage. During the night, he had two or three spells of coughing, threatening suffocation.

An operation was urged, to avoid immediate and subsequent dangers from the lodgment of this extraneous body, and was agreed to by the parents, and by Dr. HUMES, who was called in consultation. It was performed on the 14th of Aug.; a cathartic, and afterwards an opiate, having been given.

An incision, one inch and a half long, was made through the integuments, extending downwards from above the cricoid cartilage, and exposing the sterno-hyoid and thyroid muscles, which were then separated. After exposing the trachea, a longitudinal incision, about three-quarters of an inch in length, was made through its parietes at the third ring. This was held open, and the patient requested to cough. This was ineffectual. The wound being closed, the button was, by coughing, thrown up against the rima glottidis. A probe passed into the trachea, produced a violent effort to cough, by which, as soon as the instrument was withdrawn, the button was thrown through the wound, to some distance from the patient.

The wound was dressed with two sutures and adhesive strips. Most of it united by the first intention; and in a few days the patient completely recovered.

52. *Fistula Lachrymalis*—At the session of the Royal Academy, on the 15th of December, M. J. **Cloquet** related the case of a female, who, three years previously, had submitted to the operation for fistul. lachrym. according to the method of M. **Foubut**. The canula which had been allowed to remain in the nasal canal, had ulcerated through the floor of the nose, and presented its inferior extremity on the inside of the mouth.

A practical commentary on this mode of operating, which is still recommended by able surgeons!

53. *Aneurisma Herniosum.*—This form of aneurism is supposed to consist of a dilatation of the internal and muscular coats of the artery; the external cellular having been destroyed. It is termed by **Arnaud**, and by Dr. **William Hunter**, *aneurisma herniam arteriæ sistens.* Its existence in any case has, however, been denied by a large majority of surgeons; and perhaps the only cases reported are those of **Dubois**, in 1804, found in the thoracic and abdominal aorta of a dead subject.

The reporter of the following case, quotes also **Monro**, as having cited examples of this kind of aneurism. But what **Monro** termed a "mixt aneurism," arose from the rupture of the coats of a "true aneurism," by which it was reduced to the state of a "false aneurism;" very different from that here contended for. **Sabatier** and **Boyer**, also, deny the existence of this hernia of the artery, and a good summary of facts and arguments is given by **Boyer** in his Surgery, in support of this opinion, (vide article Aneurism, tome i.) which it would be difficult to invalidate, especially by cases analogous to the following. The reporter, M. **Bonnet**, of the late French army, considers this case as proving a hernia of the artery in a vessel of medium diameter; those of **Dubois** having been noticed in the largest arteries.

A Prussian soldier was wounded over the femoral artery by a musket ball. No hæmorrhage ensued, and the wound cicatrized. In this state, M. **Bonnet** visited him for a mortification of the foot of the same limb, which had been frozen. Amputation of the leg was performed, the stump healed readily, and in 12 days the ligatures came away. On the 13th day, (being six weeks since wounded in the thigh,) the patient perceived a tumour at the original cicatrix on his thigh, which had appeared during the preceding night. On the 14th, it had enlarged to three times its former size: it was painful; fluctuation was evident; but there was no pulsation, not even the thrilling noise, which is evident in the last stage of aneurism. A consultation was called, to determine whether it was an abscess or an aneurism. The question could not be satisfactorily answered, and it was determined to open it, after having made the necessary arrangements to secure the artery, should the tumour prove aneurismal. As soon as the integuments were punctured, the jet of blood evinced the nature of the complaint; and the artery was secured by ligatures above and below the tumour. The coagula were numerous, and the superficial ones, quite hard and cartilaginous. The patient did well, and there was every prospect of his recovery on the 1st day, when M. Bonnet was forced by the movement of the armies to leave him at Meaux.

Such are the facts, from which the Reporter infers, that the aneurism consisted of a protrusion of the internal and middle coats of the artery. The *reasoning*, founded on them, appears to us inconclusive; but we have not space to insert it, and must refer to the March No. of Le Propagateur des Sci. Med.

54. *Extirpution of the Two Dental Arches, affected with Osteo-sarcoma.*—Dr. Giorgi Regnoli, physician at Pesaro, performed this operation on a female 35 years of age, who had from infancy, been troubled with pain and diseases of the teeth and jaws. When Dr. R. visited her, both dental arches were enormously swelled; red and sanguineous tumours had formed over their whole surface, and covered the teeth. The alveolar processes were entirely softened. The diameters of the mouth were greatly lessened; but by the touch, it was evident, that the disease was confined to the alveolar processes of the two ossa maxillaria. A fœtid odour exhaled from the mouth. Lancinating pains continually tormented the patient; especially on attempting to masticate. The slightest touch was very painful, and was always followed by an effusion of blood. There was also an alteration of voice; a disgusting deformity of the mouth, with emaciation, fever, &c. The operation was performed on the 18th May, 1825.

The patient was seated opposite to a window; her head being supported against the breast of an assistant, who, at the same time, pressed upon the labial arteries. The inferior lip was divided perpendicularly, and detached laterally from the inferior jaw, so as to expose the whole extent of the carcinoma. Some strokes of the saw were made on the anterior and most prominent part of the bone, and into the groove thus formed, the blade of a very strong knife was inserted, by means of which, aided by some slight strokes with a mallet, all the diseased portion was removed. The soft parts had been previously detached from the internal surface of the jaw. The last left molar tooth, not being diseased, was alone left. The hæmorrhage from the dental artery was arrested by the actual cautery.

The dental arch of the upper jaw, was then completely removed in the same manner. The bleeding was here more profuse, but was arrested by a hot iron. The alveolar processes thus removed, were enlarged, and of a lardaceous colour, and the fungous growths had the appearance and consistence of indurated albumen.

In 25 days, the patient was discharged well. Her general health was good; the fœtor had quite gone; the cicatrix over the bone was regular, white, hard, and could be pressed upon without causing pain. The patient can triturate her food with facility; the lips are slightly drawn inwards, without any sensible inconvenience; and the voice is a little altered, but this even is daily improving.—*Le Propagateur des Sci. Med.* for Jan. 1826.

55. *Traumatic Erysipelas.*—In the Feb. No. of the Revue Medicale, is a clinical report of the celebrated Baron **Larrey**, surgeon in chief of the Hospital de la Garde Royale; in which he criticises severely the use of leeches in erysipelas, and recommends in that variety of the disease, arising from wounds, &c. the application of the actual cautery, as effectual in arresting immediately the progress of the disease. It causes, he says, but little pain; destroys the burning and tense pain of the disease, as also the redness and swelling of the part; is not followed by suppuration, and does not cause gangrene in the contiguous parts. The eschar separates, without leaving a cicatrix. Various other advantages are enumerated, all of which are confirmed by a list of cases, as treated at the hospital. We have no room for details, which would, if known universally, hardly render us Americans, whether surgeons or patients, as fond of the cautery, as our trans-atlantic brethren of the French school.

56. *Obliteration of a portion of the Urethra, remedied by an operation.*—M. **Vanier** of Cherbourgh, relates in the Jan. No. of "Le Propagateur des Sciences Medicales," the case of a man aged 27 years, who, on the 16th of June, 1815, was wounded in the penis by a musket ball, which completely divided the urethra at its middle portion, without injuring the corpora cavernosa. The wound healed up; but by degrees, the passage contracted, so that in May, 1819, the patient could pass his urine only guttatim, with pain and difficulty, and was threatened with inflammation, &c. of the perineum. Bougies afforded no relief. An incision was then made externally, in the direction of the urethra, so as to divide the cicatrix, and open the canal above and below the contracted part. The lips of the incision were drawn together over a sound, passed into the bladder; and by the 5th day, the wound was completely cicatrized. The sound was then removed, and a short bougie inserted, so as to pass beyond the cicatrix. This was worn occasionally, and the patient completely recovered. At the end of three years, he was able to "urinate with ease, and in a full stream."

57. *Artificial Joint cured by Caustic.*—Dr. J. **Rhea Barton**, has applied the caustic potash to the extremities of the fragments of a broken tibia, after an artificial joint had fully formed. Exfoliation was produced, followed by bony union. In three months, the patient recovered.

Dr. B. alludes to other cases, by Mr. **White** of Manchester, and Mr. **Henry Cline**, thus treated with success; to two instances, in which the practice failed in the hands of Mr. **Earle**; and finally, to one case by Mr. A. **Cooper**, the result of which he has not learnt. He does not recommend the operation, as usually preferable to the *seton*, for which, the profession is indebted to Dr. **Physick**; but as an additional expedient, when other means fail.—*Med. Record. April*, 1826.

58. *Epilepsy cured by Trephining.*—In the 17th No. of the New-York

Medical and Physical Journal, Dr. DAVID L. ROGERS relates an interesting case of a man, aged 46, who had been subject to epileptic convulsions for 14 years, and who, of late years, had been unable to labour, and rapidly sinking into a state of idiocy, from their frequent recurrence.

These fits were preceded by a fracture of the os frontis, with depression, from which he readily recovered; but soon after he was attacked with convulsions. He now suffers pain on the injured side extending down the neck and left arm—the eye of the same side is diminished—the sight much impaired, and his memory almost entirely destroyed. A cicatrix covering a slight depression was easily found, above the left superciliary ridge of the frontal bone, and over the superior orbitar foramen. Under these circumstances, the operation of trephining was performed on the 7th of July, 1825, but with some difficulty, from the irregular thickness of the bone, and from the saw having to pass through the upper part of the frontal sinus. "The dura mater was unfortunately cut through for one-half the circumference of the circle." The parts were found more vascular than usual, and the under surface had a ridge corresponding to the internal depression, but too slight to have caused compression of the brain. "Having made a section of the frontal sinus, [with a trephine?] a part of the *posterior table* was removed with the *circular* piece. This portion of the internal table had been fractured, and separated to some distance from its inferior attachments to the frontal plate, and driven back upon the substance of the brain. Its sharp edge was worn round and smooth." This seemed to have been the cause of all the mischief.

After the operation, the patient suffered from pain in his head, with some moderate excitement, which was relieved by cathartics. He had no return of fits until the 25th day, when the wound was entirely healed. These had been brought on by overloading his stomach with food, and were followed by high arterial excitement and inflammation of the brain.

He was relieved in a few days by active depletion, and was discharged cured on the 20th of August. *Nine months* afterwards, this man continued free from fits, his memory had nearly recovered its usual strength, and he could attend to his business without any inconvenience.

VI. MIDWIFERY.

59. *Gastrotomy.*—M. BELK, in Germany, has successfully performed this operation on a female, aged 36 years, of good constitution, under the following circumstances. The patient, during her pregnancy, suffered from a severe pain at the left and inferior portion of the abdomen; her menses were not suppressed, and every six or eight days, a clot of blood and mucus came from the vagina. Her general health was very good.

About the middle of her 8th month, she was washing some linen, and suddenly felt as if something was tearing in her abdomen; at the same time, a swelling of the size of two fists (poings) formed on the right side, below the umbilicus. She fainted, and for six weeks suffered dull pains in the abdomen. At this time, she had *true labour pains* for 48 hours, and was attended by a midwife. The os uteri dilated so as to admit one finger only. The tumour disappeared during these pains. The patient recovered, with the size of the abdomen undiminished.

In this state she continued for two years and three months, menstruating regularly. She became again pregnant, with little inconvenience until the 7th month, when her abdomen was painfully distended, and of a bluish colour, and fluctuation was induced on the least motion. At the full period, she was delivered of a large fœtus, which she suckled for 15 days. The infant then died of an aphthous affection.

Her milk ceasing, she rapidly declined with hectic symptoms. The tumour reappeared below the umbilicus about the size of an egg, and soon opened, discharging from small orifices a little pus. The opening was enlarged, and some skin and hairs were removed. The patient's constitution was fast yielding, and gastrotomy was immediately performed. An incision was made, with the requisite precautions, through the linea alba into the cavity of the abdomen, from two and a half inches above the umbilicus to within nine lines of the pubis, care being taken to prevent the escape of the intestines. A fœtus of full size, in which putrefaction had commenced, was found on the right side of the uterus. "I raised," says the operator, "the body with much care, and endeavoured to trace the umbilical cord. This was turned over the fundus of the uterus to the left side, and terminated in a vascular substance in a state of suppuration, (probably, the remains of the placenta,) which was situated below the great omentum. I pressed out, and dried up the pus, which covered these parts, by means of a sponge. The uterus was an inch and a half in length and an inch in breadth, of a pale rose colour, and could easily be distended (se laissait distendre aisément.) It was otherwise in a good condition."

The wound in the abdomen was closed with sutures. The patient was in great danger from inflammatory symptoms for 8 days, but eventually recovered. She left her bed on the 55th day.

60. *Cæsarian operation, performed with safety to the Mother and Fœtus.*—We condense from Johnson's Review for April last, the following summary of a case of Cæsarian section performed by Graefe, on the 20th of September, 1825.

Carolina Bechang, was admitted into Graefe's Clinicum, in an advanced stage of pregnancy; being 30 years of age, much deformed by rickets, and only four feet (Rhenish) in height. On the 20th of Sept. after having been five days in labour at the full period, pains severe, and os uteri dilated, she consented to the Cæsarian section.

A little after 2 o'clock, Graefe placed the fore finger of his left hand, immediately below the umbilicus, and with a large scalpel, made an incision downwards in the linea alba, to within one inch of the pubis; dividing the entire parietes, and even penetrating the substance of the uterus. A second incision penetrated the uterus and exposed the placenta; which, as had been anticipated, was found on the fore part of the fundus. The assistants now compressed firmly the edges of the divided abdominal parietes upon the uterus, to prevent the protrusion of the intestines, in which they succeeded; and Graefe carried his hand in a moment into the uterus, separated the placenta with his finger and thumb, and then withdrew it and the child almost together. The child was very active, and cried lustily. The uterus immediately and suddenly contracted, and the bleeding was inconsiderable. Not more than twelve ounces of blood were lost, and no ligature was required. The whole operation was completed in four minutes and a half. The wound was secured by three broad sutures, and adhesive plasters, assisted by a bandage round the abdomen.. The child weighed six pounds and was well formed. During the operation, the patient was sick, and once vomited slightly. In two hours had pain and fever: V. S. ℥xij. Draught with ten drops of the aqua laurocerasi was given, and repeated in a few hours. The patient passed a quiet night. The symptoms of pain, inflammation, and fever, were threatening for some days, and were promptly resisted by the lancet, by enamata, by narcotics, especially the laurocerasus and hyosciamus, by fomentations, &c. By the 9th day, the wound had cicatrized, excepting near the symphisis; symptoms all favourable. The lochia were discharged regularly; and in three weeks, she was able to sit up, and in three more, quite well. Early in November, she returned home with her child, both in perfect health.

In Ferussac's Bulletin Universel, for February, another case, in which the Cæsarian operation was performed with safety to the mother and infant, is copied from Rust's Magazine.

61. *Extirpation of the Uterus.*—Dr. Rheineck, of Memmingen, was consulted by a female, who in December, 1824, was attacked by fever, from which she slowly recovered. A prolapsus of the uterus, which gradually became inverted, followed, attended with frequent hæmorrhage and discharge, by which she was almost worn to the grave. The whole of the uterus was inverted, and without the labia externa; its surface loose, fungous, and in several places easily broken down upon pressure; but there was no hardening nor ulceration. The irritation was so great, as to threaten the patient's life, and after a consultation, in which it was agreed, that the swelling was really formed by the uterus, the tumour was laid hold of and drawn forwards, and a broad ligature, secured with a double surgeon's knot, was applied round its base. In about three weeks, the whole had separated, and the part above the ligature was cicatrized. During this period, the patient was dangerously ill, and was only rescued by great care and attention.

The operator had before performed a similar operation, in which case, the patient died suddenly from hæmorrhage, on the separation of the ligature. Osiander, Struve, Longenback, Sauter, Siebold, and Zaug, have in late years performed the same operation, with various degrees of success.—*Johnson's Review for April,* 1826, who quotes from *Siebold's Journal fur Geburtshulfe,* 1826.

62. *Uterine Hæmorrhage.*—In the Bulletin Universel for Jan. 1826, the following case is detailed from the Gazette de Santé, for Dec. 1825.

A female aged 32 years, was taken with labour with her first child, on the 12th Feb. 1825. The pains soon ceased, and on the 15th of Feb. M. Bedel, physician at Schirmack, was consulted, who speedily delivered her, by means of the forceps, of a dead child. The hæmorrhage was so considerable, as to render the immediate removal of the placenta necessary; but the uterus did not contract, and the bleeding continued, with tremblings, syncope, cold sweats, &c. Irritation on the internal surface of the uterus, the use of cold water to the abdomen, injections into the uterus of cold water and vinegar, were unavailing.

Plugging the vagina, and also the *uterus,* was now resorted to, as the only means of safety remaining. The uterus was filled with pieces of rags, for fear the patient could not sustain the loss of blood necessary to fill that cavity; while a methodic compression was at the same time made to the abdomen. The hæmorrhage was immediately arrested, and soon after reaction ensued.

On the 16th, M. Bedel extracted the plugs from the uterus, cautiously and in succession; and had the pleasure of finding the uterus regularly contracting after each removal. The lochial discharge continued, and there was no secretion of milk. The patient recovered slowly.

It is in such cases as the above, that the physicians of the United States have employed the Secale Cornutum (Ergot,) the judicious use of which would have probably superseded the necessity of instruments, and prevented or arrested the hæmorrhagic discharge.

VII. CHEMISTRY AND PHARMACY.

63. *State in which Morphia exists in Opium.*—In the 80th article of our Quarterly Summary for January, we stated that Mr. Robinet had announced the discovery of a new acid in opium, with which the morphia was combined; while the meconic acid was alleged to be united with soda. To the former salt, he gave the name of *codeate of morphia.* Mr. Robiquet, however, has shown, that the pretended *codeate,* is a *muriate* of morphia, formed by double decomposition between the muriate of soda, employed by Mr. Robinet in his analysis, and meconate of morphia. The same decomposition shows the source of the meconate of soda. We observe that Mr. Robinet admits his mistake.—*Archives Generales de Medecine.*

64. *Peculiar principles of Narcotic Plants.*—"Dr. Brandes of Sabzerflen, having been prevented by extreme illness, induced by investigating the pe-

culiar principles of narcotic plants, from completing his inquiries, has announced the results of his labours in general terms. He states, that he has found a peculiar narcotic principle in all the narcotic plants; as belladonna, hyosciamus, conium, stramonium, chelidonium, digitalis, &c. The narcotic principles are readily soluble in alcohol, ether, acids, and water, and of a highly offensive odour. This odour is so great in the principle of conium, that it is almost impossible for an individual of an irritable habit, to remain in the room, where there is an etherial solution, containing only a few grains of it. The smell of such a solution is equal to the smell, arising from twenty or thirty pounds of the plants. It is also remarkable, that as this principle is neutralized by acid, the disagreeable odour disappears, or is greatly diminished; which so far agrees with the circumstance, that the plants themselves give little of their peculiar smell, because the narcotic principle is not in a free state. Dr. Brandes has promised to communicate the manner of obtaining the principles."—*Lond. Med. Repository, Feb.* 1826.

65. *Relative quantities of Cinchonia and Quinia in the most esteemed Varieties of Peruvian Bark.*—Mr. Bally asserts, that practitioners, from observation, have classed the Peruvian barks in the following order;—first, the gray loxa bark, (*Cinchona Officinalis*;) then the red bark (*Cinchona Magnifolia* of Ruiz and Pavon, or *Oblongifolia* of Mutis;) and lastly the yellow bark, or calisaya, (*Cinchona Cordifolia* of Mutis, or *pubescens* of Valli.) The *Cinchona Officinalis* furnishes much cinchonia, and little quinia; the *Cinchona Magnifolia* affords about equal quantities of the two salifiable principles, while the *Cordifolia* contain much quinia.

Mr. Bally, assuming it as proved, that cinchonia is the more powerful salifiable base of the two in a medical point of view, considers, therefore, that, in regard to the above barks, chemical analysis justifies the order of their relative value, which had been previously deduced from their medical employment.—*Archives Generales de Medecine.*

66. *Sulphate of Quinia, extracted from the Cinchona Bark, exhausted by Decoction.*—Mr. Julia-Fontenelle, from the sparing solubility of quinia and cinchonia, suspected that decoctions and aqueous extracts of Peruvian bark contained but little of those vegetable alkalies; whence it would follow, that the residuum, generally rejected as having no febrifuge power, would still contain the greater part of them. This suspicion has been in a great measure verified. The aqueous extract was found to contain but little cinchonia and quinia; while the residuum of decoctions, giving the mean results, furnished two-thirds of the sulphate of quinia, yielded by the same weight of cinchona not acted on by water.

As decoctions and aqueous extracts of bark are febrifuge, though containing inconsiderable quantities of quinia, and cinchonia, Mr. Julia-Fontenelle is led to believe, that these salifiable bases are not the only febrifuge principles in Peruvian bark, but that the extractive matter also possesses that property.

His results present a striking difference between alcoholic and aqueous extracts of bark; for while the former contain nearly the whole of the salifiable principles, the latter contain very little.—*Revue Medicale.*

67. *Analysis of Rhubarb.*—It is some time since Mr. Nani, an Italian chemist, announced the discovery of a crystallizable vegetable alkali in rhubarb. Mr. Caventou has repeated the experiments of Mr. N. and finds them, in many respects, inaccurate. Upon analysing the alcoholic extract of rhubarb, by the aid of alcohol and ether, employed separately and combined, Mr. C. obtained a fatty matter, containing a little odoriferous volatile oil; and a yellow colouring principle, capable of crystallization, and of being sublimed without decomposition, which may be called *rhubarbin*. He also detected in the alcoholic extract, a brown substance, insoluble in water when pure, but rendered soluble by combination with rhubarbin; when it forms a compound, constituting the *caphopicrite* of some chemists, and the *rhubarbin* of Psaff.—*Archives Generales.*

Mr. George W. Carpenter, of this city, prepares the medicinal principle of rhubarb in combination with sulphuric acid, under the name of sulphate of rhubarb, by the following process:

"Boil, for half an hour, six pounds of coarsely powdered Chinese rhubarb in six gallons of water, acidulated with two and a half fluidounces of sulphuric acid; strain the decoction, and submit the residue to a second ebullition in a like quantity of acidulated water; strain as before, and submit it again to a third ebullition. Unite the three decoctions, and add, by small portions, recently powdered pure lime, constantly stirring it to facilitate its action on the acid decoction. When the decoction becomes slightly alkaline, it deposites a red flocculent precipitate, and the fluid is changed from a yellow to a crimson colour. The precipitate is then to be separated by passing it through a linen cloth, and dried; after which, reduce it to powder, and digest in three gallons of alcohol, at thirty-six degrees, in a water bath, for several hours, at a moderate heat. Separate this solution from the calcareous precipitate, and distil off three-fourths of the alcohol. There then remains a strong solution of rhubarbine, to which add as much sulphuric acid as will exactly neutralize it. Evaporate this slowly to dryness, without having access to atmospheric air. The residuum will be of a brownish-red colour, intermingled with brilliant specks, possessing a slightly pungent styptic taste, soluble in water, and its odour that of the native rhubarb." This residuum is the sulphate of rhubarb. (Sulphate of *rhubarbin.?*)

Mr. Carpenter assures us, that this preparation contains the medicinal principle of the rhubarb, apart from its inert portion; and considers it as bearing the same relation to rhubarb, as the sulphate of quinia to the Peruvian bark. The Chinese rhubarb, at half the price, furnished twice as much rhubarbin as the reputed Russian, which Mr. C. considers to be spurious in the Philadelphia market, being the English prepared in imitation of the Russian.—*Philadelphia Journal of the Medical & Physical Sciences. May*, 1826.

68. *Alkaline Lozenges of Bicarbonate of Soda.*—Mr. D'ARCET proposes the following formula for these lozenges:—Take of

Bicarbonate of Soda, pure and dry, and in fine powder,	5 parts.
Very white Sugar, in fine powder,	95
Mucilage of Gum Tragacanth,	q. s.
Essential oil of Mint, pure and fresh,	2 or 3 drops

for about every 3 ounces of mixture of bicarbonate and sugar.

Shake the bicarbonate and sugar in a well dried bottle, with the view of mixing them intimately. Withdraw the mixture from the bottle, and add the mucilage and oil of mint, blending the whole together on a marble. The mass obtained, is then to be divided into lozenges, which should weigh, when dried, about 15 grains each. As they slightly attract moisture, they ought to be kept in a dry place, or in well stopped bottles.

Mr. D'ARCET praises very highly the effects of these lozenges in disordered digestion, and in preventing its occurrence, as well from experiments made on his own person, as from observations on others. He believes their operation to be purely chemical, consisting in the saturation of the morbid acid of the stomach, and, therefore, not likely to be lessened by habit. Their effects are much more prompt than magnesia, either pure or in the state of carbonate.

In the phosphatic diathesis, where the urine is disposed to be alkaline, it would seem that these lozenges would do harm. But, perhaps, we have this security against their use in these cases, that the stomach would not at the same time be troubled with acidity. *Annales de Chimie et de Physique, Jan.* 1826.

69. *Presence of Mercury in Samples of medicinal Prussic Acid.*—Mr. REGIMBEAU, apothecary at Montpellier, has detected this impurity in some prussic acid, prepared in Paris. Its presence was first suspected, from a portion of the acid, accidentally dropped, leaving a white stain on the copper dish of a balance. It is probable, that the impure acid, spoken of, had been made by passing sulphuretted hydrogen through a solution of cyanide of mercury, according to VAUQUELIN's process; and that an insufficiency of the decomposing gas had been employed.

May not this accidental impurity explain the occasional salivating effects of prussic acid.

70. *Proposed Method for preparing Protoxide of Mercury by precipitation, for Medical Employment.*—Mr. THOMAS EVANS has published some observations on this subject, and justly remarks, that the blue pill, mercurial ointment, and other mercurial preparations, are not uniform compounds, but contain variable proportions of the real protoxide, and uncombined mercury. Some blue pill, which had been carefully prepared by Mr. E. by the usual process of trituration, was found to contain on analysis 20 per

cent. of unoxidized mercury; and the blue mass from Apothecaries' Hall, London, furnished about the same proportion.

As it is obviously a desideratum to procure preparations of protoxide of mercury of uniform strength, Mr. Evans has been led to seek a process, by which to obtain this oxide in a pure state. After repeated experiments, he has pitched upon the following formula: Dissolve four ounces of caustic hydrate of potassa in a pound of water, and to the clear solution, decanted from any impurities, add four ounces of calomel, and shake the mixture frequently. Pour off the liquid, and wash the precipitate formed with water, and then dry it at a gentle heat.

In regard to the medical efficacy of the protoxide obtained in this way, Mr. Evans reports the following to be the results obtained by Dr. Coates, at whose suggestion the article was prepared. As a substitute for calomel, it is more apt to vomit and purge, two grain doses operating several times. As an alterative, it was found incomparably more efficacious than the blue pill, being more certain and regular in its operation. Dr. C. thinks, that one-fourth of a grain of the precipitated protoxide, as prepared by Mr. Evans, is equal to three or four grains of the blue mass.—*Journ. of the Philad. Col. of Pharm. May*, 1826.

The method here proposed for obtaining the black oxide of mercury by Mr. Evans, was first suggested and put in practice by Mr. Phillips. See his "Experimental Examination of the last edition of the Pharmacopœia Londinensis, London, 1811," page 114. His words are, "When solution of potash is employed, the several inconveniences attendant upon the use of lime-water are avoided, and a blackish coloured protoxide is obtained without heating the solution. As potash is much more soluble than lime, it is scarcely necessary to employ one-tenth part of the quantity of water; this not only renders the process more convenient, but the quantity of air contained in the water being less, very little of the oxide, perhaps none of it, is converted into peroxide." See also the experiments, and observations of Mr. Donovan, on Mercurial Ointment, &c. published in the Medical Journals, several years ago.

71. *Goulard's Extract of Lead.* Mr. Daniel B. Smith proposes the following formula for obtaining Goulard's extract of uniform strength:

Acetate of lead, crystallized,	15 ounces, troy.
Protoxide of lead,	9 ounces, troy.
Distilled water,	4 pints.

"Boil them together for fifteen minutes and filter. The filtered liquid will weigh about five and a quarter pounds, is transparent, colourless, and of the specific gravity of 1.267. (30° Baumé.)"

We conceive that Mr. Smith has erroneously denominated the sugar of lead, a binacetate. The best usage is to deem that the primary saline compound, which contains a single proportional of acid and base. Accordingly we call the saturated carbonate of potassa, a *bicarbonate;* and Dr. THOMSON calls borax, a biborate of soda, on account of its containing two proportionals of acid to one of base, notwithstanding the alkaline qualities of this salt. Goulard's extract is, therefore, a sub-binacetate of lead, or according to Dr. THOMSON's recently suggested nomenclature, a *diacetate.—Ibid.*

QUARTERLY LIST

OF

AMERICAN MEDICAL PUBLICATIONS.

Observations on the Autumnal Fevers of Savannah. By W. C. Daniell, M. D. 8vo. pp. 152.—W. T. Williams, and Collins & Hanway. Savannah, 1826.

An Analysis of Fever. By Charles Caldwell, M. D., Professor of the Institutes of Medicine, and Clinical Practice in Transylvania University. 8vo. pp. 97.—Lexington, K. 1825.

Medical and Physical Memoirs. By Charles Caldwell, M. D., Professor, &c. Containing, 1. An Introductory Address, intended as a Defence of the Medical Profession against the charge of Irreligion and Infidelity; with Thoughts on the Truth and Importance of Natural Religion. 2. A Dissertation in answer to certain Prize Questions, proposed by his Grace, the Duke of Holstein Oldenburg, respecting the "Origin, Contagion and general Philosophy of Yellow Fever, and the Practicability of that Disease prevailing in high Northern Latitudes;" with Thoughts on its Prevention and Treatment. 3. Thoughts on the Analogies of Disease. 8vo. pp. 224.—Lexington, K. 1826.

Florula Cestrica: an Essay towards a Catalogue of the Phœnogamous Plants, native and naturalized, growing in the vicinity of the borough of West-Chester, in Chester County, Pennsylvania; with brief notices of their Properties and Uses, in Medicine, rural Economy and the Arts. To which is subjoined an Appendix of the useful cultivated Plants of the same District. By William Darlington, M. D. 8vo.—West-Chester, 1826.

We are much gratified with the appearance of this little flora. It is really an uncommonly neat, useful, and convenient performance; and, we have no doubt, is by far the most elegant and creditable botanical work, if not the only one, published in any small town in America. To a country town, we would not think of looking for such a production; but in fact, the county of Chester has, of late years, made very considerable advances in science and literature. It has produced a public library, and perhaps others with the existence of which we are not acquainted, several botanical and mineralogical collections, a very respectable series of essays on its history, similar to Mr. Jefferson's notes on Virginia, schools, teaching the higher branches of the English mathematics, and one of those partly literary newspapers which have recently sprung up among us.

The above title considerably explains the nature and extent of the work. Of its scientific accuracy, sufficient time has not yet elapsed to form an adequate judgment; but we observe that the author has had the frequent assistance of Baldwin, Collins, Steinhauer, Torrey, and Schweinitz : so that, if the maxim "noscitur a socio" be at all applicable in the present case, it is evident that he has been in the very best botanical company which our land affords.

The work is executed with very great neatness, such as would do credit to the press of a metropolis, and is really wonderful for a moderate sized village, and for the disturbed life of a country physician, its author. There is also a great deal of that kind of popular explanation, which so agreeably relieves the repulsiveness of dry works on natural history: such as the familiar names of the plants; the derivations of the names of the genera, designed to assist the student in remembering them, by enabling him to associate some idea with them; occasional comments on their uses and injurious effects, &c.

We may add, that from the close proximity of Chester County to Philadelphia, extending to a large part of the line of the Schuylkill, this little work will answer extremely well for common use around this city, with the single exception of the sands of New-Jersey.

Memoir on the Topography, Weather, and Diseases of the Bahama Islands. By P. S. Townsend, M. D.—New-York, 1826.

The New-England Journal of Medicine and Surgery, and Collateral Branches of Science. Conducted by Walter Channing, Jr. M. D., and John Ware, M. D. No. 2. Vol. XV.—Boston, April, 1826.

The American Medical Review, and Journal of Original and Selected Papers in Medicine and Surgery. Conducted by John Eberle, M. D., Nathan Smith, M. D., George M'Clellan, M. D., and Nathan R. Smith, M. D. No. 1, Vol. III.—Philadelphia, April, 1826.

The Medical Recorder of Original Papers and Intelligence in Medicine and Surgery. Conducted by Samuel Colhoun, M. D. No. 2, Vol. IX.—Philadelphia, April, 1826.

The Philadelphia Journal of the Medical and Physical Sciences. Edited by N. Chapman, M. D., W. P. Dewees, M. D., and

John D. Godman, M. D. No. V. New Series.—Philadelphia, May, 1826.

The New-York Medical and Physical Journal. No. 17. Edited by John B. Beck, M. D., Daniel L. M. Peixotto, M. D., and John Bell, M. D.—New-York, April, 1826.

Journal of the Philadelphia College of Pharmacy. No. 2, Vol 1. —Philadelphia, May, 1826.

AMERICAN EDITIONS OF FOREIGN MEDICAL BOOKS.

Manual of Surgical Operations; containing the New Method of operating, devised by Lisfranc; followed by two Synoptic Tables of Natural and Instrumental Labours. By J. Coster, M. D. and Professor of the University of Turin. The Translation and Notes by John D. Godman, M. D. 12mo. pp. 265.—Carey & Lea. Philadelphia, 1825.

A Treatise on Derangements of the Liver, Internal Organs, and Nervous System. By James Johnson, M. D. 12mo. pp. 223.—Carey & Lea. Philadelphia, 1826.

An Inquiry into the Nature and Treatment of Diabetes, Calculus, and other Affections of the Urinary Organs. By William Prout, M.D. F.R.S. From the second London Edition, with Notes and Additions, by S. Colhoun, M. D. 8vo. pp. 308.—Towar & Hogan. Philadelphia, 1826.

We are sensible that the foregoing does not present a full list of medical publications for the last quarter; but it is as complete as our opportunities have enabled us to make it. It is obviously for the interest of authors and publishers, to send us the titles of their medical publications as soon as they appear, and we invite them to do so.

THE

NORTH AMERICAN

Medical and Surgical Journal.

OCTOBER, 1826.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Epidemic of* 1825 *in Natchez, Miss.* By AYRES P. MERRILL, M. D.

Causes.

NOTWITHSTANDING the many attempts that have been made towards an explanation of the nature and origin of the causes of epidemic fevers, they are still involved in great obscurity, and as yet are only known by their effects upon the human constitution; which serves, however, to afford us the means of observing the laws by which these destructive influences are regulated. By these effects, the *origin* of the miasmata, which are the acknowledged causes of this class of diseases, is determined to be either *general* or *local.*

1. It is *general*, when the miasmata being produced by exhalations from all parts of a city, the disease makes its appearance simultaneously in different and remote situations, embracing almost at the same instant, the whole extent of its location. Such is generally the case in Havanna and other West India cities, New-Orleans, &c. and also in Natchez, with the epidemics that occurred in the years 1817, 1819, and 1823, supposed to have been caused by exhalations from extensive accumulations of loose earth, collected by an effort to graduate the uneven surface of the city.

2. The origin of these causes is *local*, when the disease originates in some particular section of a city, confining itself upon its first appearance within a small compass, and afterwards extending

its influence from house to house, in regular and observable steps, radiating as from a focus in every direction, from the situation first infected; and unless checked in its progress by a desertion of the inhabitants, the opposition of artificial barriers, or the arrival of cold weather, continuing to spread, until the whole city is involved in the same dreadful calamity. Such was the case in Philadelphia and New York in 1793, 1795, 1798, &c. and more recently in New York, Baltimore, &c.

The epidemic which is the subject of these remarks, although much less extensive and violent than at any former period, when this city has been the theatre of its ravages, has exhibited conclusive evidence of the *general* origin of its causes, and left us little reason to doubt that they consist of exhalations from the surface of the earth; and it affords strong confirmation of the observation, that a dry autumn, succeeding a wet winter and spring, is always prolific of malarious fevers. It will be seen by a reference to the meteorological table annexed to this paper, that an unusual quantity of rain fell from the first of December 1824 to the last of July 1825, while the months of August, September, and October, were uncommonly dry and warm; which has been the case, with little variation, during each of the other three years that this city has been affected with epidemic fevers: And the only reason that suggests itself, why the epidemic of 1825, should have been less extensive and malignant than either of the previous visitations, is found in the fact, that very little alteration has been made in the surface of the ground during the last two years, and the city being much more effectually drained than formerly, less facility is afforded for the stagnation of water, and the consequent extensive saturation of the earth. But it must be remarked, that there are still remaining many vacant lots so enclosed with embankments formed by the elevation of streets, and at the same time so partially drained, as to cause a considerable depth of deposit by every shower of rain.

In the winter and spring of 1825, the first wharf for the landing of steam boats was constructed under the hill,* and some store-houses having been erected upon it before it was completely filled in with earth, considerable vacancies were left under them, which afterwards became receptacles of rain water, and the washings of the street above. The whole wharf, some hundred feet in extent, and six or eight in depth, was washed on one side by the river, which rose during the spring months nearly to its surface, and, together with the constant rains, kept the immense mass of loose earth of which it was constructed for a long time filled with water. The existence of the disease at this place, where the first cases occurred, was of short duration, and it did not spread, but wholly disappeared on the desertion of the wharf district, which took place immediately on the alarm being given. The breaking out of the fever at the landing evidently had no connexion with the attack upon the main part of the city nearly a month afterwards, and scarcely requires to be mentioned here, except as being the first instance of the occurrence of a malignant fever at that place, before it had appeared in the more populous section of the city upon the hill; and as appearing evidently to depend for its causation upon the single circumstance of the construction of a *wharf*, which, upon the prevalence of much dry weather succeeding the wet season, and the fall of the river, gave rise to the same exhalations that have so often produced precisely similar results in every other part of the city.

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* The city of Natchez is divided by a perpendicular bluff 150 feet in height, running parallel with the river, into two parts, commonly distinguished by the terms "*on the hill*," and "*under the hill*," or "*the landing*." The latter includes but a small portion of the inhabitants.

During all the winter and spring months, and as long as the frequent rains continued, the city remained healthy. No one disease prevailed to any considerable extent; and indeed, with the exception of some few cases of pleurisy, pneumonia, &c. scarcely any cases occurred which required the attendance of a physician. About the 15th of August, bilious fevers began to be more common, but were generally mild and tractable. On the 20th, a case of "malignant fever" was reported, which originated under the hill in the vicinity of the new wharf. This was the first case that excited much alarm, but the same day we had a violent gust of wind and rain from the south-west, and continuing to rain all night, it seemed to arrest the progress of every thing like fever; and afterwards very few cases occurred until the 27th, when another case similar to the above, proved fatal. This was also contracted under the hill, where some others were at the same time reported to be sick with malignant symptoms. On the 29th, the physicians of the city held a meeting, and after ascertaining that there were three cases of malignant fever at the landing, and that *all* the cases of this nature which had yet occurred, had originated within a small section of the city adjacent to the river, they recommended to the Board of Health, "an interdiction of intercourse with the infected district." But the Board chose rather to advise the citizens generally, "to remove from the city as soon as practicable." In consequence of which, about two-thirds of the inhabitants fled immediately to the country. The infected district, confined to a very small square consisting altogether of store-houses, was soon abandoned by all its inhabitants, which terminated the progress of the disease at the city landing for the season. Ten persons, are estimated to have died from exposure to the effluvia of the little district infected.

No case of malignant disease had as yet originated on the hill, and this portion of the city continued to be quite as healthy as is usual at the same season, until about the 17th of September, when the attacks of fever were evidently increasing, both in number and violence. On the 22d, we had a gust and shower from the north-west, and subsequently the city became more healthy; so that, on the 26th, the yellow fever having made its appearance at the village of Washington, the place of general refuge, many persons and families began to move back to Natchez. Immediately afterwards, the weather became again very dry, and the city more and more sickly, but with not many cases termed *malignant*, until the 13th and 14th of October, when much alarm was created by the fatality of the diseases, and many of the inhabitants again sought security in the country. The disease now continued with little abatement until the 26th, when we had a heavy shower of rain. The next day the wind changed to north-west, and blew strong and cold, and during the succeeding night the thermometer fell to 34°, which induced many families to move into the city. The weather continuing cold, the Board of Health on the 2nd of November declared the town healthy, and invited the inhabitants to their homes. From this time until the 20th, there were occasional sporadic cases of malignant fever, which, however, produced little alarm, and the business of the city went on as briskly as ever.

After the 10th of August, bilious fevers began to prevail extensively in the country bordering on the Mississippi river, both above and below Natchez, and for a number of miles in the interior. These exhibited a degree of malignity not often observed in country practice here, and not unfrequently terminated in black vomit. Indeed, until the 1st of October, the fevers of the country were acknowledged to be more violent and less easily controlled than those of the city, by every physician who had opportunities of witnessing the progress of both; and during the whole season, their fatality has not fallen far short of that which the inhabitants of the city have suffered. Since the first settlement of this country, autumnal fevers have never prevailed in the neighbourhood of Natchez, with such violence, and extent of mortality, as during this season.

The whole history of the epidemic of 1825, when taken in connexion with those of 1817, 1819, and 1823, which so far as concerns the city, correspond very nearly with it, affords us little reason to doubt that the causes which have produced the several visitations upon this city, were of a *general* nature, producing their effects upon its whole extent simultaneously; and that these have mainly depended for their origin, upon the occurrence of much wet weather during the winter and spring months, followed by unusually dry and hot weather in August, and the autumn months. And it is well worthy of remark, that a malignant epidemic has invariably prevailed in the city, after such peculiarity of weather since 1816, at which time, the great changes that have since been effected in the superficies of the city, were commenced. Previously to that time, the diseases to which the city was subject, did not differ materially from those prevalent in the adjacent country, either in extent or mortality.

All inquiry into the existence of *local* causes, such as the decomposition of accumulations of vegetable or animal matter, seems to be wholly unsatisfactory in accounting for the occurrence of these repeated calamities; because the disease, with the exception of its temporary existence upon the newly made wharf, has never been traced to any particular *local* origin, from whence it might have extended its influence over every other part of the city. But the epidemic has, in every instance, been so general in its commencement, and so evidently the common autumnal fever, with a gradual increase of malignant symptoms, that there has always been much difference of opinion for a number of days, as to its real existence

Besides, no new and unusual accumulations of either animal or vegetable materials, in a state of decomposition, have been discovered in sufficient abundance, to account for a *local* origin of the disease. Indeed, popular opinion, which after so many opportunities of observation, ought to have some weight in the argument, is almost entirely in opposition to such causation.

Symptoms.

The more violent cases of fever, which occurred upon the first appearance of the disease at the landing, and also those that originated on the hill after the middle of September, as well as all the malignant cases in the adjacent country, were characterized by the usual symptoms of malignant epidemics in hot climates. Nearly every case was strongly marked by appearances of inflammations or congestions, either general or local. A large majority, however, were highly inflammatory in the commencement, the symptoms of which were rarely confined to any particular organ of the body, but diffused themselves throughout every part of it, appearing with the greatest violence during the first two or three paroxysms, in the head, back, and limbs, and attended by the most acute pains in these parts. The abdominal viscera were at the same time less violently affected, but as the disease progressed, these became more particularly the seat of it. The stomach, intestinal canal and kidnies, seemed now to be the organs principally diseased, and ultimately became almost exclusively those upon which the morbid affection fixed itself. The most untractable and fatal cases, were always those where the gastric and nephritic disorder was the most apparent. In some of the most violent cases, the whole force of the disease, after the first two or three days, seemed to be concentrated upon these latter organs; and, particularly in its affection of the stomach, gave rise to the most distressing and fatal symptoms. Constant nausea, vomiting, heartburn, great oppression at the præcordia, hickups, &c. were among the common and most unpleasant consequences of this peculiar location of the morbid affection. Inflammation of the kidnies was much less painful in its effects, but scarcely less unfavourable in the prognosis of the disease. It was always attended by a paucity of urine, and frequently by a total suspension of its secretion. A painful dysuria sometimes made its appearance, and in a few instances a continual discharge of blood from the urethra.

Cases of congestions, either general or local, were commonly the succeeding symptoms of inflammatory attacks. But they occasionally occurred, exhibiting from the commencement every symptom of congestive torpor in the whole sanguiferous system. Such attacks were distinguished from the inflammatory, 1. by the pulse, which was always feeble, languid, oppressed, and sometimes scarcely perceptible at the wrist. 2. By the long continued rigours, attended by the most excruciating pains in the head, back, and limbs. 3. By the smooth, white marble-like aspect of the skin. 4. By the pearly whiteness of the sclerotica of the eye. And, 5. By the general torpor of the whole system, and its unsusceptibility to the operation of medicine. Unless the circulation was speedily relieved of its languor and oppression, and the vital powers of the system restored to their usual vigour, all the most malignant symptoms of the disease soon made their appearance; costiveness, with a total suppression of the secretions of both urine and bile, was followed by vomiting, laborious respiration, delirium, cold extremities, black vomit, and death. The surface of the body, during the whole course of such attacks, would remain cool, and sometimes covered with a viscid clammy sweat, and in the latter stage of the disease, the eyes and face appeared suffused with blood, exhibiting a turbid and unnatural aspect.

This fever was generally *remittent*, with one, and oftentimes two exacerbations and remissions in twenty-four hours; but in either case, the most distinct remissions almost invariably occurred in the morning, and the greatest exacerbation in the evening or during the night. In many congestive attacks, the exacerbations and remissions appeared to be so imperfect and indistinct as to be observed with difficulty; but I have never doubted their existence, in all cases where I have had good opportunities of closely watching the progress of the disease. During the latter part of the season, there were many distinctly marked cases of quotidian and tertian intermittents, but which commonly ran into the remittent type after a few days; and when these came to a fatal termination, they were scarcely less liable than others to end in black vomit.

Treatment.

The symptoms of every possible variety of this disease have been so often detailed by men of science and observation, that every one who has paid attention to the subject, has become familiar with them; and the pathology of malarious fevers is probably at this time as well understood as that of most other diseases. With regard to their treatment then, one of two important conclusions is irresistibly forced upon us, viz. either that they do not admit of a management as successful as most other diseases, to which the human body is liable; or, that a knowledge of the most efficacious treatment of them, has not been cultivated advantageously, and kept even pace with the inquiry into their pathological character. It is truly melancholy to observe the great variety of changes that have taken place in the treatment of these fevers during the last century, and with what trivial advantage. The three grand systems of *stimulation*, *mercurialization*, and *depletion*, have successively been adopted by physicians, but always under the influence of prejudices and restrictions, which have so clogged and fettered the operations of each, as to produce very little actual difference in the results.

These systems have been the *hobbies* of their particular advocates, and such contentions have arisen about determining the peculiar merits of each of them, that prejudice and envy have been made to take the place of reason and candour, so as to confine the ambition of members of the faculty, pretty constantly, to the propagation and establishment of some particular theory. Thus, the plan of stimulation, when once adopted, was rarely allowed to be mingled in any degree with that of depletion, not even so far, sometimes, as to permit the free evacuation of the intestinal contents, and much less the loss of blood. The system of depletion, likewise, has often been followed up with too close a reliance upon the theory of counter-stimulation, without a due regard to the necessity of supporting the vital and animal powers. While the mercurializing treatment, has usually been so implicitly relied upon by its advocates, as to induce them to interdict the co-operation of either of the other systems of practice to much extent, and the patient has too generally fallen a victim, to a misplaced confidence in the *peculiar* operation of one particular remedy.

In making public an account of the treatment of this disease, it is natural for us to give preference to the plan we have adopted, and believe most proper, particularly as it is the one with which we are best acquainted, and of which we are best able to speak from actual observation and experience. And this is the course I have determined to follow in this instance, taking the liberty at the same time, to disapprove of what I consider some of the most prominent errors, committed by others.

In every violent attack of the disease, the first remedy invariably applied was blood-letting. Whenever the primary symptoms were of a decidedly inflammatory character, attended by a full, strong pulse, and acute pains in the head, back and limbs, a copious bleeding was always at once prescribed. The quantity taken, however, was regulated wholly by the effects produced upon the general system, and I have rarely known it to exceed two pounds at the first bleeding, and subsequently the quantity was generally somewhat smaller. It was considered an advantage of considerable consequence, to be able to perform this operation during the existence of the first paroxysm; which, together with other active remedies, generally procured an early remission. In most instances, the second paroxysm required similar treatment with the first, and frequently, it was found necessary to employ blood-letting, for two or three subsequent exacerbations of the disease. A recumbent posture was usually enjoined during the operation of bleeding, as more blood could be drawn in this posisition, without affecting the force of the arterial circulation, or producing syncope; effects generally required, but the ultimate benefits of which depended upon the loss of a considerable quantity. Nothing is easier than to produce syncope in a severe attack of fever, by bleeding the patient in an erect posture, from a large orifice, and without the actual loss of much blood: But, however well this practice may accord with the *theory* of the pathology and treatment of this disease, I am certain that the *effect* is temporary and inefficient.

Whenever the attack exhibited symptoms of extensive congestions, it became necessary to apply this remedy with greater caution. The danger of collapse from a too sudden abstraction of stimulus, when the system was labouring under an oppressive circulation, rendered it important not only that the vital powers should be cautiously sustained during the operation, but that the loss of blood should be more gradual, and effected in small quantity, at short intervals. This course was found to be the more feasible, on account of the greater length of the exacerbation of fever in congestive cases, and the shorter and less distinct remission, which admitted of the repeated application of the remedy during the same paroxysm. The tepid bath, together with the exhibition of some diffusible stimulus, was often found useful in giving the system the necessary support during the operation, as in the following case.

A healthy robust young female was suddenly attacked with every symptom of congestive fever. Her pulse was slow, languid, and scarcely perceptible; her skin cool and pale; her eyes wild, and the çonjunctiva of a pearly whiteness; and her whole system agitated by constant rigours. She complained of agonizing pains in the head, back and knees, was covered over with blankets, and had been drinking freely of hot teas and hot toddy. A bath was immediately prepared, in which she was placed, and remained about half an hour, with the water as warm as it could well be borne. Two or three doses of volatile alkali were administered, and she drank plentifully of warm ptisans. Appearing much relieved of chilness, and her pulse having become fuller and stronger, one pound of blood was taken from the arm, upon which she became faint, and vomited freely. Some very active cathartic medicines were given, and she seemed a good deal relieved of pain. After three hours, her pulse was found to have increased, both in frequency and strength, and the pains in the head, back and limbs had returned, but with less violence than before. She now lost one and a half pounds of blood, and her medicine having operated freely, she appeared again much relieved. After another period of about three hours, it was found necessary to take another bleeding of a pound and a half, and subsequently the case assumed the type and character of our ordinary inflammatory attack. She was convalescent on the sixth day, and rapidly recovered.

Such is the termination of most of the cases of congestive fever which come to a favourable issue. When treated with bloodletting to the necessary extent in the commencement, they almost invariably assume the character of inflammatory cases, and are afterwards quite as easily managed. But it must be remarked, that to produce this effect, the most active treatment is required, cautiously and watchfully applied. And it should be remembered, that in no disease to which the human body is liable, are delays more dangerous. The neglect or postponement of the application of proper remedies for a very few hours, is often productive of fatal consequences.

The state of the stomach and bowels is the next important object of attention. The former organ was usually found affected with a constant nausea, and a disposition to vomit; and the bowels, in nearly all cases, suffered from obstinate constipation. The first was commonly relieved by large draughts of warm water, or of some simple ptisan, which in most instances served effectually to evacuate the contents of the stomach, and at the same time to relieve the distress and nausea of that organ. Preparatory to answering the second indication of obviating costiveness, a scruple of calomel was administered, not so much with a view of obtaining the benefit of its cathartic operation, as for the purpose of appeasing the remaining irritability of stomach, sufficiently to enable it to retain the more active purgatives. Epsom salts, jalap and cream of tartar, or castor oil, were the usual remedies which succeeded the first dose of calomel; and these were prescribed in such quantity as was deemed necessary to produce a cathartic effect in the course of three hours. Afterwards, the dose of calomel was repeated; or sometimes, in its stead, a dose of calomel and jalap, calomel and scamony, or the following:

R. Sub. Mur. Hydr. . . . . ℈iij.
Pil. Aloes cum Colocynth. . . . ℈iiij. *m.*
Divid. in. Pil. No. xx.

From four to six pills were given at a dose. Calomel, however, was generally preferred to be given by itself, and always then, in scruple doses, its cathartic operation being ensured by alternating with it, other purgatives.

It is both curious and instructive to observe the many changes that have taken place in the medical application of mercury for the cure of diseases. In the treatment of fevers, its efficacy has for a long period been supposed to depend upon the contingency of its producing a peculiar excitement of the whole system, the existence of which could only be tested by its sialagogue effects. For this object, the remedy is prescribed in small and frequently repeated doses, and nearly always in combination with opium; a practice, in some diseases perhaps useful, but oftentimes exceedingly disastrous in its consequences. The time *has been*, when the reflection that a patient had been sedulously plied with calomel and opium, no matter in what disease, or under what circumstances, served not only as a certain salvo to the conscience of the physician for want of success, but as an almost certain protection of his professional reputation against the cavils of his neighbours. It was all-sufficient for him to declare, that the patient *could not be salivated!* But that time has now gone by. The experience of even the *planters* of this country, in the management of their slaves, has convinced *them*, that this is not a successful practice; and the better informed among them, would not now hesitate to impeach the skill of any medical man, who would recommend it for the cure of any variety or grade of fever.

The medical profession has been slow to adopt the plan of administering calomel, which seems so clearly pointed out to them both by reason and experience; and it is only since the masterly works of Dr. JAMES JOHNSON have been extensively circulated, that the practice of using this medicine in *large doses* has generally obtained. Like many other innovations in medicine, however, this has usually been adopted under such restrictions and modifications, as have rendered it productive of very little advantage, in the management of our most fatal diseases. Physicians, although commonly enthusiastic in their reliance upon newly discovered remedies and principles in medicine, find it exceedingly difficult to divest themselves entirely of long received and established theories. Pride, prejudice, and the authority of books, all combine to produce this effect; and it is a natural consequence, that, however useful or important the innovation may be, when put in common practice, it becomes so amalgamated with preconceived notions, as to impair or wholly destroy its usefulness, and its reputation is lost. This has been the case to a considerable extent with the change of practice in regard to the use of calomel. For while it is acknowledged, that the increased magnitude of the dose is an important improvement in the treatment of many diseases, still it is contended that the usual addition of *opium* must be as necessary as before, and indeed more so, to prevent an immediately cathartic operation—the identical effect required.

Under such restrictions, the new method was found inadequate to the production of all the benefits expected from it, and to enable its professed advocates distinctly to show some important result from the improvement, a farther experiment was deemed proper, and the medium dose of 20 grains was increased to 40, 80, 100, and in some instances to 150 grains. Because this enormous quantity was found to produce no immediately injurious effects upon the system, its purgative operation not being increased in the ratio of the increase in the magnitude of the dose, it was believed that the experiment had fully succeeded, and the long wished for desideratum in the medical use of calomel, was at last understood. But these attempts at improvement, in the method of treating febrile diseases, it would not be difficult to show, have wholly failed of their object, and have actually produced in practice not more favourable results, than the system which taught the use of the *blue pill.*

Many of the physicians of this country have adopted the plan of treating fevers with large doses of calomel, but nearly all that have done so, have also combined with it the prominent error of the former practice, in the simultaneous exhibition of opium, either with a view to retain the mercury a sufficient length of time in the system to produce its peculiar constitutional effects, or retard its operation upon the bowels, and prevent hypercatharsis. An object of great moment in the cure of fever, has led many practitioners to the commission of the like remarkable error, viz. the necessity of so varying the purgative treatment as will certainly prevent the occurrence of frequent watery discharges; and this is considered a strong argument in support of the practice in question. No prescription is now more common than that of giving fifteen to forty drops of laudanum, after the doses of calomel exhibited have produced a certain number of discharges, or when these have assumed a watery appearance; and I do most conscientiously believe, that no practice was ever more destructive. Want of sleep and rest, universal symptoms of the higher grade of bilious fevers, afford the advocates for the use of opium another argument in favour of the prescription of their favourite remedy. None can be more fallacious, none more absurd.

Opium seems to exert a baneful influence in epidemic fevers to a much greater extent, than can be properly attributed to its constipating effects. This is a remark made, I believe, by Dr. RUSH, and will be found true by all who follow his footsteps in impartial inquiry. In what particular manner this effect is produced, whether by inducing torpor of the lacteal and lymphatic vessels, or in some other way, I will leave to others to determine. The fact of the impropriety of the practice is all I contend for, and this will be readily acknowledged by every unprejudiced mind that has witnessed its disastrous consequences.

The existence of morbid matter in the intestinal canal has long been acknowledged as an efficient exciting cause of fevers, and no indication in their treatment has more generally been acknowledged, than the necessity of a free evacuation of these morbid accumulations; but the duration of the indication, and the proper manner of answering it, are subjects upon which the profession is much divided. Concerning the *first* evacuations, however, the little discrepancy that exists is perhaps of little consequence, as their importance is acknowledged, and they are always a primary object of consideration. But subsequently it appears to be a commonly received opinion, either that this indication ceases to be of much importance, or that another quite as necessary becomes associated with it; which is no other, than that for effecting a mercurial action in the system, and which is acknowledged necessarily to include the administration of opium. The invariable tendency of every paroxysm of fever, is to produce constipation of the bowels, and this, unless in some way or other counteracted, always constitutes an additional exciting cause of the disease. Now even the small quantity of opium that is deemed necessary to prevent the too rapid progress of the mercury through the system, cannot fail to increase this disposition; and experience teaches us that this is invariably the effect produced.

Finally, as a reason for condemning the use of opium in the treatment of these diseases, I have the results of my own experience, which I would not readily relinquish for any other authority. Having become convinced of its impropriety, and of its absolutely deleterious effects, I have for more than two years proscribed this article entirely from my list of remedies for the autumnal fevers of this climate, and during this period have not given one grain in such cases. The results effected by this change in my own practice, have been satisfactory beyond my most sanguine anticipations; and so firmly am I convinced of its propriety, and the absolute necessity for the exclusion of this article from common use in these fevers, that I should consider my life as well spent, if by a continued effort I should be able to confer such a signal benefit upon mankind as the accomplishment of this one object.

Calomel, when given alone, I have always found to produce the best effects in scruple doses. A smaller quantity than this operates more frequently, producing greater irritation of the stomach and bowels, and causing frequent watery dejections, which rapidly debilitate the patient. In a larger dose, although it does not always create any symptoms immediately unfavourable, yet no additional benefit is observed from it, and it sometimes becomes a source of much irritation, operates too frequently, and produces too great a degree of prostration. While the medium dose of twenty grains rarely fails to quiet the irritability of the stomach and bowels, and carry off large quantities of feculent bilious matter, without griping, tenesmus, prostration, or any other untoward symptoms. This dose may be given more or less frequently, as the nature and violence of the disease may appear to require.

Another practice which I cannot but consider very reprehensible, is that of giving *emetics* indiscriminately in these fevers. In the milder cases of bilious fever, it will not be denied that apparently beneficial effects are sometimes produced by this practice, when the remedy is given at the commencement of the first paroxysm; but yet it is contended that even under such circumstances, a few tumblers of warm water or chamomile tea will generally answer the indication with as much efficacy, and more safety. My objections to the use of an emetic in malignant cases of fever are, 1st. it commonly, and invariably when given after the disease has been confirmed, produces great irritability of stomach, continued vomiting, and great oppression at the præcordia; symptoms always to be deprecated, and the most difficult to overcome of any to which the patient is liable. 2nd. It unfits the stomach for the retention of the proper cathartic medicines, a due operation of which is of such vital importance to the patient. 3d. It serves to hasten that crisis of the disease, in which the morbid powers seem to concentrate upon the stomach, and gives rise through the medium of this viscus, to the most distressing and fatal symptoms, which are often the precursors of black vomit and death. Very many cases, after the administration of an emetic, have been known to run through their course to a fatal termination, before the stomach could be so far controlled as to admit the operation of a single cathartic. During the present season, a soldier was attacked with all the symptoms of a violent fever, and, during the first paroxysm, took repeated doses of a solution of epsom salts and emetic tartar, in an infusion of senna. A violent vomiting was produced, which, notwithstanding every exertion to check it, continued for three days, when the patient died in the act of ejecting large quantities of black matter from the stomach, streaked with blood. Numerous limpid stools were also in this case produced, but no medicine after that above mentioned could be retained upon the stomach a sufficient length of time, to produce a favourable catharsis. Cases equally unfortunate are not uncommon during the prevalence of the malignant fevers of this climate. Many reputable authorities could be adduced in opposition to this dangerous practice, among whom Dr. JOHNSON stands pre-eminent, both on account of his distinguished talents as a physician, and the extent of his experience in the treatment of these diseases. In speaking of the Mediterranean fever, he says, "in one case which proved fatal, Dr. BURNETT's assistant gave the patient an emetic of tartarized antimony, the consequence of which was, that the vomiting increased, and never afterwards for a moment left him; he passed blood by the nose, mouth, and anus, and finally died at the hospital." "*Let this prove a lesson*," says Dr. J. "*against emetics in fevers of the warmer regions, where gastric irritability is one of the most formidable symptoms we have to encounter.*"

But to return from this digression. It is, in all cases of malignant fever, not only an object of the first importance to *acquire*, but to *maintain* complete control over the functions of the alimentary canal, throughout the whole course of the disease. For which purpose, it is necessary to exercise the greatest possible degree of vigilance; for it is impossible in many instances to calculate with any degree of certainty, upon the operation of even the most active doses of medicine; and should the patient be suffered to remain too long, even after one good impression has been made, without some exertion to continue the effect, it may become more difficult to obtain a second advantage of the kind, than was experienced with the first. As the disease progresses, the offensive morbid matter is accumulated in the intestinal canal with the most surprising facility, and in almost incredible quantity; and such is the degree of intestinal torpor, caused by over stimulation, that it is often necessary to resort to a variety of powerful cathartics, conjoined with the use of blood-letting, blisters, sinapisms, bathing, enemata, &c. before the bowels can be thoroughly evacuated. Sometimes when we suppose our control over them to be complete, we are often disappointed in our expectations—some little negligence, delay, or improper management on the part of the patient, depriving us of our advantage, which, perhaps, it is impossible for us to regain. And here I cannot but revert again to the improper use of opium, which is frequently resorted to by *nurses*, to give temporary relief from pain, or for the purpose of procuring sleep, in the absence of the physician. So common is this practice, and so uniformly injurious, that I rarely fail, on being called to a patient attacked with malignant fever, to enjoin it forcibly upon the nurses, that under no circumstances is opium in any shape to be given. Under a conviction of the vital necessity of cathartics, I have made it a constant rule to administer, not only calomel, but every other purgative, in doses of such magnitude as seem best calculated to produce free and copious discharges, which I consider far preferable to the practice of giving frequent small doses, that are very apt to produce watery dejections, and much irritation of the bowels. And I have as constantly adopted the practice of giving such doses, in as rapid succession as the patient could well bear, during the first two or three days of the fever. In no case, do I consider myself justifiable in waiting longer than three hours for the operation of any one cathartic, before it is followed by some other, and frequently, much less time is suffered to elapse.

This is a stage of the disease, that requires the most determined treatment on the part of the physician, and which is too often suffered to pass, with very ineffectual efforts to relieve the system of its accumulated burdens. In cases of the greatest severity, more can undoubtedly be done towards curing the disease, by active and judicious management during the first twenty-four or thirty-six hours, than for the succeeding two or three days. No fears should ever be entertained at this period on account of *debility*, *prostration*, *typhus*, &c. which, like *witchcrafts*, are *bugbears* to be found in the imaginations of those only who believe in them. Whenever I have seen a case of great debility and prostration during the first two or three days of the disease, I have invariably found it to proceed from want of active depletion, and I have as constantly remarked with regard to such cases, that the strength and powers of the system were invigorated by blood-letting and purging.

In the latter stages of the disease too, the patient is even more liable to suffer from inattention to the purgative treatment. Then it is, that both physician and patient generally consider the system too weak to bear evacuations, and such a cautious, temporizing practice is the consequence, as favours the accumulation of such a mass of morbid matter in the intestinal canal, as is well calculated by the increased morbid excitement it produces, to overcome the powers of life. The patient becomes languid and restless; his strength suddenly leaves him; his respiration is laborious; his pulse faulters; his stomach rejects every thing; a continual vomiting sets in; the coffee-ground matter makes its appearance, and the attendants are not disappointed; he dies of debility! That the medical treatment during this rapid declension of the vital powers should not be, what it too generally is, an active system of stimulation, calculated only to increase the evil it would remedy, I think every one must be convinced, who understands any thing of the pathology of the disease, or has ever witnessed, in a single instance, the effects of a different practice. The indication for purgatives in this case, appears to me to be as clear as that for removing a foreign body from the eye, for the purpose of curing ophthalmia, or a nail from the foot, for the relief of traumatic tetanus.

A female, about twenty years of age, and of good constitution, was suddenly attacked with all the usual symptoms of inflammatory fever, attended with a lively delirium. She was immediately bled, which operation was two or three times repeated during the first day; took repeated doses of purgative medicines, which operated well; and although extremely ill, her case was considered in nowise very alarming, until on the eighth day, when in consequence of having passed twenty-four hours without any considerable operation from the bowels, her strength declined so rapidly, that in a few hours there seemed to be scarcely a sign of life remaining. Sinapisms were extensively applied to all her limbs, stomach, and nape of the neck, and spirits of ammonia put into her mouth every few minutes by the teaspoonful. Under the operation of these stimulants she soon revived; she was able to take nourishment and to speak, although with difficulty. I now plainly perceived the error that had been committed, and immediately set about to remedy it by the exhibition of purgatives; although she was yet labouring under such a degree of prostration as scarcely to enable her to raise her head from the pillow; her pulse feeble and intermittent, her deglutition difficult, her tongue covered with a thick dark coating, her teeth loaded with sordes, her abdomen much swollen, her stomach irritable, and a painful sensation of heat and distention in the epigastrium, together with much mental alienation.

A scruple dose of calomel was first given, which was followed in about half an hour by one and a half ounces of castor oil. These producing no effect, she became exceedingly restless, and found no relief except in the exhibition of enemata, which were given every half hour, without, however, producing much evacuation. Two hours after taking the oil, thirty grains of jalap, and sixty of cream of tartar, were given in combination, and the whole abdomen covered with a blister. Three hours afterwards, no operation having been obtained, one ounce of epsom salts, dissolved in a strong infusion of senna, was directed. At the end of another period of three hours, one and a half ounces of castor oil, with the same quantity of oil of turpentine, were administered, a part of which she vomited. The enemata had been continued all this time every half hour, with scarcely any purgative effect, but always affording momentary relief; she had taken a spoonful or two of chicken tea every few minutes, and occasionally, a dose of ammonia.

The case was now considered hopeless, and about four hours suffered to elapse without any farther attempts to open the bowels, except by the continuance of the enemata, which she found constantly necessary, to alleviate her sufferings. As a *dernier resort* in this condition of the patient, the croton oil was recommended, of which one and a half drops, were given in a little chicken tea. After an hour and a half, an enormously large evacuation of dark fœtid matter was produced, to the indescribable relief of the patient. The increase of her strength was such, even during the operation, as to strike her attendants with astonishment, and it continued to improve from that moment; her mental faculties were soon perfectly restored, and under the operation of a succession of cathartic medicines for ten days afterwards, of which senna and manna were the principal, she completely recovered.

Subsequently, I found the croton oil a valuable remedy in many cases, when difficulty occurred in keeping the bowels sufficiently open *in advanced stages of the disease*, and repeatedly prescribed it in doses of one to two drops with admirable effect. From the limited experience I have had with this medicine, it appears to me important that its use should be confined to the declining stage of fever, when the inflammatory action has much abated. Under such circumstances. I have also prescribed it in cases of gastritis, and enteritis, with decided benefit.

I have known many cases of malignant fever take a favourable turn most unexpectedly, from the accidental effect of some purgative medicine, in the last stage of the disease; and I have heard of one case this season, which terminated favourably, after having been wholly given up, from the copious operation of a dose of calcined magnesia, taken by the patient's own accord. But such instances are rare, compared with the number that fall victims to the opposite mode of practice.

After the disease had been subdued, it often became necessary to assist the powers of nature, in restoring the constitution to its original vigour, by the exhibition of tonics. Besides the usual remedies commonly resorted to for this purpose, the sulphate of quinine has been much used during this season, and when given with the proper attention to the state of the system, it seems to have answered the object remarkably well. But like all other new remedies it is liable to great abuses. Its peculiar effects upon the system are those of the bark in substance; but, as the stomach retains this preparation much better than any other form of the same medicine, and indeed hardly ever rejects it, it is more difficult to determine when this viscus is in a proper state to receive it, or when it will do injury; and the benefits to be derived from its exhibition are often sought after, by an experiment, dangerous to the life of the patient. Hence the necessity for more caution in its use, than in the employment of the bark in substance, the good, or ill effects of which, can generally be determined by the operation of a single dose upon the stomach alone.

Convalescence from this fever has generally been rapid, as is common in like cases; but during the month of December, many persons who had had the disease, were attacked with jaundice, some cases of which proved very obstinate. A repetition of scruple doses of calomel, every second or third day, for a week or two, followed by some bitter tonic, I found to be the most effectual treatment.

A summary account of the quantity of rain which fell at Bellemont, three miles south of Natchez, from the 1*st of December*, 1824, *to the* 31*st of December*, 1825. *The fractional numbers denote* 225 *parts of an inch.*

Months.	*No. of rainy days.*	*Depth of rain.*	*Total.*
1824			
December,	9.	11.85	
1825		———	11.85
January,	6.	4.15	
February,	6.	3.220	
March,	8.	10.205	
April,	11.	8.20	
May,	7.	4.200	
June,	9.	4.217	
July,	6.	3.145	
August,	6.	2.200	
September,	3.	1.55	
October,	2.	1.15	
November,	5.	6.70	
December,	4.	3.180	
		———	55.192
			$67\frac{43}{225}$ inches

Mean temperature at Bellemont, three miles south of Natchez, for 1825.

January, $49\frac{1}{3}$°
February, $57\frac{1}{3}$°
March, $63\frac{2}{3}$°
April, 69°
May, $76\frac{2}{3}$°
June, $76\frac{2}{3}$°
July, $80\frac{2}{3}$°
August, $80\frac{2}{3}$°
September, $74\frac{2}{3}$°
October, 66°
November, 55°
December, 44°

Note.—The thermometer is noted at sun-rise, at 2 o'clock, P. M. and at sun-set.

History of the Natural and Modified Small Pox, or of the Variolous and Varioloid Diseases, as they prevailed in Philadelphia in the years 1823 *and* 1824. By John K. Mitchell, M. D., and John Bell, M. D., attending physicians at the then Small Pox Hospital.

(CONCLUDED FROM PAGE 53.)

The second part of our task, is a sketch of the modified Small Pox or Varioloid Disease. In this, as in many other cities, it was observed that soon after the appearance of the variolous fever, in persons on whom neither vaccination nor inoculation had ever been practised, others residing in the same house, but who had been previously vaccinated, were seized with a malady, resembling that of small pox in its precursory fever, and a subsequent eruption, but usually distinguished from it in the speedier subsidence of disease, and, generally, return to health. This fact, observed on a large scale in several parts of Great Britain, and in Baltimore in our own country, soon became the signal for alarm. Unlimited confidence in the all-protecting power of vaccination, now yielded to doubts almost amounting to a denial of its efficacy in warding off the variolous disease. Such extremes abound in the history of the human mind, usually averse to the trouble of investigations, in which the truth does not immediately appear. Slow in yielding up an old and favourite opinion, we usually prefer, however, an entire abandonment of it, and the admission of a totally opposite and decided one, rather than take a middle position, which is to be sustained by evidence brought from various quarters. That vaccination was a preventive to the attack of small pox, was a proposition for the most part accurate; that it was an infallible and invariable safeguard, was never believed by those who knew any thing of the history of cow-pox, from its first introduction by Jenner, down to the present time. Exceptions to its protecting power were of not unfrequent occurrence, and had been duly recorded. It was only, however, when the increase of these exceptions became numerous during a season of epidemic small pox, that people generally were found to abandon their creed, and no longer consider a vaccine scar as confering on its wearer a charmed life. Ill timed fear supplied the place of unlimited confidence, and the oracular look of mistrust in the few, was the signal for panic in the many. A suggestion of some physicians, about the susceptibility to small pox being only destroyed for a certain time by vaccination, was hastily seized on by a portion of the disturbed public, who became eager for revaccination. That some of them were gratified in this wish, arose more, we must presume, from a good natured desire on the part of their medical advisers to tranquillize their uneasiness, than from any conviction in the latter, of the necessity of the operation.

There were not wanting some among the faculty, though we believe the number was very small, who advocated inoculation for the small pox in place of vaccination, as a means of protecting those who had not been previously subjected to either process. This opinion, partly the result of ancient prejudices, which the success of vaccination had not entirely dispelled, and in part grounded on present fear, was, however, very properly prevented from having injurious practical tendency, by legislative enactment, in which inoculation was forbidden under heavy penalties. The most melancholy effects of ignorant wilfulness, and of blindness to advice and remonstrance, were exhibited by those parents and nurses who suffered infants at breast, and children, to contract the natural small pox, by purposely exposing them to the contagion, and, in some instances, by inoculating them.

The reader must not infer from this notice of the contrariety or various shades of opinions among the people, that the majority of the members of the medical profession, either stood aghast at the invasion of the unexpected enemy, or resorted to temporary expedients, or random experiments, to arrest its progress. Temperately, but firmly, they urged the superior advantages of vaccination, over any other known means of present security or future prevention. Acting up to this recommendation, they assiduously and unremittingly continued to perform the operation.

This sketch of popular opinions and fears, on the appearance, and during the prevalence of the variolous and varioloid diseases, will not, we believe, be without its value. The knowledge of past errors is the best pledge for future discretion and wisdom. To the physician, lessons of this nature are of paramount value, placed, as he is, in the triple capacity of sentinel, counsellor, and protector, in these emergencies of new or wide spreading diseases. He must be the first to see the storm, the readiest to devise the means of protection on its approach or progress, but the last to retire before its attacks, or to quail at its devastations.

Before we speak of the effects of the variolous poison on the vaccinated, we must beg leave to press on the attention of our readers, the admitted and indisputable fact, that nearly every history of small pox, prevailing extensively or epidemically, furnishes cases of persons attacked and dying of the existing disease, who had gone through a previous one, and that so unequivocally, as to have been much marked and scarred. Similar returns have been noticed after inoculation. It was also well known, that occasionally, the fever and eruption of small pox would seize those who had been vaccinated.

That in an epidemic season, in which the tendency to cutaneous disease was very great, as in the years 1823 and 1824, the poison of small pox should affect the then three privileged classes, viz. those who had had the disease naturally in early life, those who had had it by inoculation, and those who had been vaccinated, was not an anomaly.

The operation of the variolous poison, when it took effect on the vaccinated, was often similar for the first few days, to that on the unprotected, that is, on those who had never been subjected to inoculation or vaccination, or who had not been in any former period attacked with the small pox. The fever, the gastric distress, and pains in the back and head, were occasionally as distinctly defined, as in the first period of the unmitigated disease. In some cases, the activity of the circulation, and the determination to the brain, seemed to be greater in the modified, than in the unprotected subject. The eruption on such occasions, was at first of maculæ, in abundant crops, of a crimson colour, with scarlet borders, especially copious about the back, shoulders and hips. But it is worthy of observation, that these maculæ, smooth and without elevation, would for the most part disappear, without leaving corresponding papulæ. Where the eruption was constant, and proceeded on to maturation, the pustules were usually fewer, the constitutional disturbance at the time less, and the subsequent process of desiccation, more rapid than in the genuine small pox. Nor was there in general, secondary fever in the former, as in the latter. In these particulars, there were, however, some notable varieties; so that some who had been previously vaccinated, were attacked with such violence by the varioloid disease, or modified small pox, as to have their lives endangered, and the face subsequently marked with the scars from the pustules. But in general, the disease in this form was milder, more obedient to remedies, and very rarely of fatal termination.

It will be observed that we speak of the disease occurring in the vaccinated, and possessing the characters already described as necessarily the product of variolous poison, or that same contagion, which, in the unprotected, produced the natural small pox. The identity of cause of the two forms of eruptive fever, variolous and varioloid, has been, we know, denied by some; but, for ourselves, we see no ground to doubt the sameness, if we are to be swayed by the customary laws of evidence. We are led to this conclusion by the following reasons.

1. Some of the vaccinated have at all times since the introduction of the cow-pox, had, on exposure to the poison of the small pox, an eruptive fever similar in appearance and symptoms to the latter disease, except on the score of its mildness.

2. Some of the vaccinated have, on the introduction of small pox matter by inoculation, had a pustule with an extensive areola, accompanied by fever, and a partial eruption on the other parts of the body.

3. In the same family, persons previously vaccinated have had this modified eruptive fever, while living with, or nursing, those labouring under the natural small pox; and *e converso* persons have had the natural disease without having been exposed to any other known cause than living with others who were then suffering under, or had just recovered from, the modified or varioloid disease.

"The fact that small pox, by effluvia, or in the casual way, can take place within a limited time after the cow-pock, was first observed in Mr. Malim's case, see Med. and Chir. Review, No. 53; and I think Mr. Bevan's case (Med. and Phys. Journal, p. 455. vol. v.) is an instance of the same kind."* "Hence," continues this writer,

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* An Examination of the Report of the Committee of the House of Commons, on the claims of Remuneration for the Vaccine Pock Inoculation, containing a statement of the principal historical facts of the Vaccina. By George Pearson, M D., F. R. S.

"it appears there are two different sets of eruptive instances, *to wit*, 1. Those of the casual small pox contemporary with the vaccina. 2. Those of the casual small pox supervening a few days after the constitutional affection in the vaccina." Dr. Pearson was one of the earliest and most zealous advocates for the practice of vaccination, and his opinion, as just given, comes in most opportunely in the present argument. In his time, we see that the liability of small pox coming on after vaccination, was thought to depend on the recency of this latter operation, merely, we presume, by a process of negative reasoning, for there were no opportunities to ascertain the liability of those vaccinated for a length of time, as the practice was then but of few years' adoption. In our day, we have seen an opposite opinion held, viz. the greater susceptibility to small pox in those vaccinated for a term of years. Experience has shown long ago the fallacy of the first belief; the second must, we think, be abandoned on the same showing.

As regards the second reason on which we ground our conviction of the identity of the cause of the two diseases, variolous and varioloid, viz. that derived from inoculation after the vaccine disease, we can speak with some confidence.

Dr. HENRY NEILL of this city, among other interesting cases of modified small pox, has kindly furnished us with the following, which fully illustrate the point in question. At the request of a lady, mother of a large family, who was alarmed for her children during the existence of small pox in this city in the winter of 1817—18, Dr. N. introduced variolous matter into the arms of six of them, whose ages were respectively, sixteen, fourteen, twelve, ten, eight, and six years. They had all been successfully vaccinated when a few months old. The four younger children had a slight soreness of the arm, which subsided between the fourth and seventh day from the insertion of the variolous matter; they suffered from no indisposition. The arm of the oldest exhibited a slight appearance of inflammation on the third day from the inoculation, gradually increasing to the eighth, at which time the spot inflamed was about the size of a dollar. She complains on this day (8th January) of chillness and headach, and in the evening increase of fever, pain in the head and back, great thirst, with hot skin, and a full and frequent pulse.

9th. The fever not quite so intense as yesterday, but there is great weeping from the eyes. The inflamed circle is three inches in diameter.

10th. Fever subsided, and inflammation of the arm nearly gone.

11th. Two or three pimples appear, with a small summit containing a whitish fluid, with an inflamed base. The patient complains of sore throat. These pimples dried in three or four days, and others appeared in succession from the 11th to the 17th, making about eight or nine on the face and neck. They all dried in three or four days after their appearance, leaving a yellow scab.

The second, fourteen years old, had a more rapid and violent inflammation of the arm. On the day after inoculation, there was considerable redness, with great itching. On the sixth day, the inflammation had extended so as to occupy half the space between the shoulders and elbow.

8th. Has considerable fever with a flushed face, and is confined to bed.

9th. Fever subsiding, and arm better.

11th. Feels very well, sits up, and has eaten animal food.

12th. Arm more inflamed.

13th. Inflammation again subsiding.

14th. Free from all complaints. An ulcer continued on the arm at the inoculated spot for several weeks.

Dr. NEILL inoculated the children in another family, about the same time, with nearly similar results. One only, aged fourteen years, (the oldest) was affected. On the eighth day after inoculation, she had slight fever, which lasted one or two days only, and was followed by a considerable eruption of small pimples, containing a milky fluid. They dried up in three or four days, and gave no inconvenience.

It was, as already observed, in the earlier maturation and desiccation of the eruption and decline of fever, more than in any other peculiarity, that the varioloid was found to differ from the variolous disease or common small pox—corresponding, in this respect, with the history of the cases above given.

The third reason in favour of the identity of the variolous and varioloid poison, is derived from the circumstances of persons in the same house having been attacked, some, as the unprotected, with the variolous, and others, as the vaccinated, with the varioloid disease, at such intervals as to be readily explained, by the communication of contagion from the former to the latter, or from the latter to the former, according to the parties first affected. In corroboration of this position, we could, if necessary, adduce a great number of proofs. The following order of events was very common. Some of the vaccinated children of a family to have the eruptive fever termed varioloid, and on their recovering, the infant, not yet vaccinated, to be seized with the natural small pox and die; the wife, vaccinated, to nurse the husband when afflicted with natural small pox, and after his death to have a slight fever and eruption vesiculo-pustular; the husband, unprotected, to attend on his wife while she was confined with the varioloid disease, and on her recovery to become sick and die in the natural small pox; the mother to die of variolous disease, and, immediately upon her decease, four of the children, who had been vaccinated, to be seized with the modified disease, of which all recovered; the father to die of natural small pox, and the infant child, not yet vaccinated, to catch the disease, and die soon after the father, while the mother, who had been vaccinated, had the modified or varioloid disease. For some of these facts, we are indebted to Dr. D. F. Condie, who had the goodness to furnish us with the results of his experience in the natural and modified small pox, or variolous and varioloid diseases. To Dr. Fox also we are happy to acknowledge our obligations for the interesting histories of the different forms of the disease, which he was pleased to place at our disposal. And it is not a little satisfactory for us to add, that, on the important questions above treated, there is an entire accordance of opinion between those gentlemen and ourselves. They, in common, we believe, with a large majority, if not the entire body of our medical brethren, join us in the belief that the risk of attack from small pox, or the violence of the disease when actually occurring in the vaccinated, bears no proportion either to the recency or remoteness of the epoch of vaccination. On this point, we think it needless to insist by the adduction of corroborative cases, which were numerous and conclusive.

Some details, illustrative of the co-existence in the same subject of the vaccine and variolous disease, may not be without interest or instruction. One of us called to visit a little boy, labouring under a mild and distinct case of small pox, found that the younger brother had not been vaccinated. This operation was performed more from a sense of duty than a belief that it would protect the child from the variolous poison of his brother, then in the twelfth day of disease. Three days after vaccination, the small pox appeared, but went through its course mildly; during the same time, the vaccine pustule was formed, passed through its stages, and on the tenth day was converted into a dry, horny, well defined pock. This family serves very well to illustrate and enforce the position of the variolous and varioloid diseases differing but in degree, and of their acknowledging one common cause. The two oldest children, brother and sister, had visited a family where small pox prevailed, and were in consequence seized with varioloid disease. Twelve days afterwards, the boy above mentioned, who was not vaccinated, had the natural small pox, which he communicated to his brother, the child who was the subject of the experiment just detailed. In two other cases, (boys,) the variolous eruption appeared in one on the fourth, in the other on the sixth day, after vaccination, and ran its usual course with great constitutional disturbance and high fever. In both subjects, the vaccine matter displayed its customary effects on the arm by the formation of pustules and a scab. The inflammation around one was very great, the skin being of a dark red colour. The variolous eruption was particularly copious in the vicinity of the vaccine scabs, and the pustules flat, broad, and confluent. Dr. Fox vaccinated two coloured boys on the same day. In one, the virus evinced its usual effects, and nothing worthy of observation occurred. But the other began to complain on the eighth day, when the vaccine vesicle was distinctly formed. He continued feverish until the twelfth, when a crop of pimples made their appearance on his face; and on the fifteenth, many distinct pustules with depressed centres were observed on the face and arms. The vaccine scab looked perfectly characteristic. On the seventh day of the variolous eruption, the pustules were full. On the ninth day, those on the face began to dry, and on the eleventh, desiccation barely commenced on the extremities. On the tenth day of the eruption, the vaccine scab was removed.

The application of these facts, and many others of a similar nature, which we abstain from recording at this time, is not by any means of doubtful value. It will teach us a highly important fact, viz. the sameness of the phenomena of small pox and cow-pox in Philadelphia in 1823 and 1824 with those in London in 1799, and go far to establish conclusively the identity in its nature of our small pox with that of the olden time, and show that the vaccine disease is not different now, after transmission from person to person, during such a series of years, from what it was, shortly after its introduction among the human species from the cow. These inferences are fairly deducible from the similarity of effects in the cases of cow-pox and small pox conjoined in the same person, as above narrated, with those noted by Drs. Woodville and Pearson in 1799. Dr. Pearson, after mentioning that Dr. Woodville had vaccinated six hundred persons in the first five months of that year, adds, "It is true that many of these vaccine cases were conjoined with the small pox, from the influence, probably, of the variolous infection; but as the eruptive cases exhibited the genuine cow-pock on the part inoculated,* (vaccinated,) and the matter of it very generally propagated the vaccina, without eruptions in private practice and in the country, it is fair to admit them into the class of cow-pock cases." p. 49, Op. cit. In another part of his work, pp. 119, 120, after adverting to certain misconceptions of Drs. Woodville and Jenner, he goes on to say, "It is no imputation that both conjectured erroneously, for then the new inoculation (vaccination) did not furnish sufficient evidence to manifest what may be considered as either a new law, (more truly two new laws,) or an exception to a law of the animal economy, *to wit*, that two different species of morbific poisons, the variolous and vaccine, can produce their specific effects at the same time in the same constitution, and in a mode unthought of, as well as contrary to the established laws of agency, of the variolous poison. If this new law had been understood at the time of these publications, it would have been known that matter taken from a vaccine pock in the inoculated (vaccinated) part, attended by the small pox, would produce, singly and distinctly, the vaccina on inoculation, as well as the matter of the attending variolous eruptions would produce, fairly and distinctly, the small pox on inoculation; also, the cow-pock can never become small pox, nor the small pox change into cow-pock; nor the poison of the one be destroyed (assimilated as above cited) by the other; nor does it appear that the vaccine poison differs in its properties, according to its production by the cows in London, in the provincial farms of any part of England, in Ireland, in Italy, and in America."

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* This term was at first in very common use, both as expressive of the introduction of the vaccine and variolous virus.

In connexion with this part of our subject may be mentioned the case of a young girl, who was vaccinated on the same day with her father. He sickened on that day with small pox, from which, after a pretty severe attack, he recovered; she had the vaccine disease in the usual manner, and though constantly in the same room with her father, she had no variolous affection.

The second variety of modified small pox, or that occurring in persons who had been previously inoculated for that disease, was of no unfrequent appearance. We watched the progress of the disorder in several, but without being able to discover any diagnostic, which should distinguish it from the natural small pox, and from the modified one after vaccination. The same precursory fever, and variety in the extent of the eruption, was met with in it as in the form of varioloid already described. It more frequently, indeed, approached to the nature of the unmitigated or natural variolous fever, in the intensity of its symptoms, and in its occasionally fatal termination. We were unprepared, from former theories or actual belief, for this seemingly anomalous state of things, and those who clung to the old faith in the superior protection afforded by inoculation over vaccination, and alleged, as proof, the smaller proportion of the inoculated, who were seized with small pox, were, notwithstanding, much staggered, when they learned that the proportion of deaths was much greater among this class of persons than among the vaccinated, who became diseased. Such, in the circle of our observation, was unquestionably the case.

That the varioloid or modified small pox in those who, in earlier life, had been inoculated for the disease, was of the same origin as the varioloid in the vaccinated, and the natural variolous disease, may be sustained by nearly a similar series of proofs to those already given, when treating of small pox after vaccination. The common origin of the eruptive fever in the inoculated, and in the vaccinated, was exhibited, among other cases, in the instance of a reverend clergyman of this city, who was seized with the usual premonitory symptoms of small pox, and had a regular eruption following it. He had been inoculated when a child, and as evidence of the constitution having been then affected, he could show a scar on the forehead, which his nurse well remembered to have been produced by the variolous fever from inoculation. His wife had, subsequently to his attack, a fever of the same duration, and with the same symptoms, but it subsided on the fourth day, and was not succeeded by any eruption. She had been vaccinated.

The same exceptions to the general rule of non-susceptibility to the contagion of small pox, by those who had the disease once in life, were met with in our epidemic, as in most of those on record. We attended persons in the variolous fever, who had it unequivocally in earlier life; and, still farther, we regret to add, that there were some deaths among this number.

We must not conclude our account of the various modifications of the variolous eruption, without, at the same time, adverting to the great number and diversity of eruptive fevers prevailing during the same period in the city. Chicken pox, measles, scarlatina, erysipelas, were of constant occurrence. Measles in particular was exceedingly malignant during the summer of 1823, or that season preceding the appearance of small pox. The former disease began in May, from which time to the end of the year there were 156 deaths. It ceased in August, 1824, between which and the beginning of that year there were 100 deaths, making, in fifteen months, 256 deaths. It is no forced supposition, that some of these, in the latter part of the season of 1823, were, in fact, from the variolous disease, with the physiognomy of which, especially of some of its varieties, the faculty could not be supposed to be acquainted. Certain it is, that many who sickened with what was thought rubeola, had been previously attended by physicians for this disease.

The following table will show the numbers and varieties of the small pox, natural and modified, which came under our observation at the hospital and in the city.

The cases of all ages and colours amounted in number to 248, of whom 176 were visited at the hospital. Of these there were—

	Unprotected.	Vaccinated.	Inoculated.	Prev. Small Pox.	Unk.
	155	64	9	7	13
	—	—	—	—	—
Deaths	85	1	3	3	

In regard to colour the proportion was—

Whites, total.	Whites unprotected.	Col. persons, total.	Id. unprotect.
111	60	122	91
Deaths	31		54

A careful perusal of the preceding history of the eruptive fever in Philadelphia during the years 1823 and 1824, will, we think, lead our readers to join us in the following inferences.

1. That the fever, followed by an eruption which underwent the several stages, papular, vesicular, and pustular, and occurring during the above years in persons who had never been vaccinated or inoculated, or had small pox, was, in its train of symptoms, general physiognomy, and results, precisely similar to the natural small pox, as it has prevailed and been described in former years, and in other countries.

2. That this disease, distressing to the person labouring under it, and disgusting to all those in attendance, is usually violent, never without danger, and always in large proportion, under any known treatment, is of fatal termination.

3. That the unsusceptibility of persons who have once had the small pox to a second attack, though of general notoriety and truth, is not universal, and that with us, as elsewhere, persons, thus apparently protected, were seized with the disease, of which some of them died.

3. That inoculation of the small pox, though in general conferring on the person subjected to this process, immunity from the effects of variolous contagion in after life, does not necessarily or infallibly guaranty him against the disease, nor prevent death when it has made its invasion.

4. That vaccination cannot now, any more than on its first introduction, be received as a certain preventive to the effects of the variolous poison, though now, as formerly, it must be considered as the best and safest with which we are acquainted.

5. That occasionally under all circumstances of exposure, but more especially during the epidemic prevalence of small pox, its contagion will affect the inoculated and the vaccinated, and pro-

duce in them a fever and eruption, differing in no essential feature from the primary variolous disease, except in the general mildness and speedier subsidence of the cutaneous disorder, and the more common exemption from secondary fever.

6. That, of the inoculated and the vaccinated exposed to the variolous poison, the former will more probably escape its influence than the latter; but, if both be affected by this contagion, the chances of recovery are in favour of the vaccinated.

7. That the protecting power of the vaccine virus on persons who have been duly subjected to its influence, is not diminished or destroyed by the length of time from its first introduction into the bodies of such persons; and that no proportion whatever exists between its efficacy, and the recency or remoteness of the epoch, when the constitution was placed under the influence of this virus.

8. That there is no reason for believing in the deterioration or alteration of the vaccine virus, which is used at this time, from that which was in use during the first years of the practice of vaccination.

Cases of Nervous Irritation, exhibiting the efficacy of cold as a remedy. By S. Jackson.

The close alliance and mutual dependance that has been established between the different branches of the medical science, is the peculiar feature of the physiological medicine of the present day. No one of them is regarded as independent, as possessing principles and doctrines exclusively its own, and as capable of being cultivated separately, with success. Anatomy, physiology, pathology, and therapeutics, constitute, in fact, a single department, of which they are the subdivisions. They have a correlative affinity so intimate, that a knowledge of the one is indispensable to understand the others. The attempt to advance them singly, has been productive of confusion and error, which must be perpetuated by a persistance in this course. A general harmony must, therefore, prevail in the principles of the different branches of medical science. A principle, for instance, that is established in physiology, cannot conflict with a principle or a fact in pathology, or therapeutics; and, whatever is true in one of these, must, in the others, be found to possess an application. If the reverse of this prevails, it is an evidence of error; the principle is false, the fact misunderstood, or the application made of them is incorrect.

Medicine, under the influence of this doctrine, acquires a truly philosophical character; is assimilated to the demonstrative and natural sciences, in which a few principles, explain a great variety of phenomena. In like manner, the physiological doctrine of medicine, reduces the immense number of diseases, to which the animal organism is apparently subject, to two, or, at most, three general classes. They may be referred to excess or deficiency of organic action; and, probably, a limited number, to a specific mode of action, but attended always by the one or the other of the preceding states, and which regulates the treatment. Two-thirds of our diseases are of the first class, and the diversity of phenomena that characterize them, result merely from the intensity, the degree of the irritation, the structure and function of tissue in which it is seated, the greater or less activity of the sympathies, the temperament and constitution of the individual.

This communication is not intended to be a dissertation, but a detail of some cases, illustrating, it appears to me, the doctrines of the physiological school of medicine, of which BROUSSAIS has so just a title to be considered its illustrious founder and able advocate.

If any diseases may be considered as distinct from all others, with respect to their essential character, they are cramps, convulsions, &c. vaguely classed, in the common nosological systems, with the designation of neuroses. On the principles of the physiological medicine, they are diseases of irritation, of the same general character as other diseases of irritation, and receive their peculiar character, or the phenomena they present, solely from their location in the nervous system. Their treatment is to be directed on the same principles as other diseases of sur-irritation, that is, by direct debilitants addressed to the primary seat of the irritation, or by revulsives.

The irritation that occasions nervous phenomena, may be entirely confined to the nervous fibrils of an organ, in which it commences, and from which it is transmitted to the brain, and thence reflected into the voluntary muscles and other tissues; or, it may be complicated with sanguine vascular irritation of the same organ. These circumstances impart a difference to the phenomena attendant on it, and the method of treatment. In the first case, it commonly yields without difficulty to the diffusible stimuli, to narcotics, antispasmodics, and revulsion practised on the exterior. In the last, those remedies are of less assured efficacy, not unfrequently fail entirely to subdue the affection, and sometimes aggravate it. The agents that debilitate the organic actions, that allay irritation, applied directly to the organ where it is seated, in conjunction with revulsives, are the means indicated; and, simple as they may seem, are attended with most prompt and decidedly beneficial effects. The following cases belong to this last class, and are well marked examples of the morbid condition I have alluded to, as well as of the treatment I consider most appropriate to it.

Case 1st. July 23, 1825.—The heat had been excessive for several days; thermometer ranging from 90° to 98°, F. I was called to a man supposed to be suffering from having drunk cold water. The subject was about thirty-five years of age, fair complexion, stout built, and nervoso-sanguine temperament. He was an Irishman by birth, and a weaver by profession. He had worked steadily, during the day, at his loom, in a confined and very warm room, had been very thirsty, and drunk largely of spirits and water, but not sufficient to intoxicate him. In the evening, he walked out, after eating heartily, and, on his return, was suddenly seized with giddiness, and inability to stand. He was carried home, and, from a supposition that his disorder had been induced by cold water, spirits and laudanum were given to him. The symptoms were immediately aggravated, and in a few moments after, were followed by violent spasmodic and convulsive efforts.

In this state I saw him. It was with difficulty four or five athletic men could retain him on a bed. The face was flushed, distorted with an expression of anguish; the eyes fiery. The convulsive throes came on in paroxysms, which lasted five to six minutes, and with short intervals; in the intervals, jactitation, tossing of the arms, cries of anguish; pulse was frequent, full, and oppressed; skin hot; profuse sweat covered the face and neck; epigastrium exceedingly sensitive, pressure on it raised loud complaints, and renewed the convulsive exertions; thirst intense. Consciousness was perfect, but the mind, concentrated on the sufferings experienced, could not be brought to attend to any inquiries addressed to the patient.

The diagnosis formed of the case was—vascular and nervous irritation of the stomach; the predisposition to gastric irritation, derived from the extreme heat; the irritation itself excited by the use of ardent spirits during the day, and meal in the evening, suddenly aggravated by the spirits and laudanum, administered as remedies; excitement of the general vascular system, and irritation of the portion of the cerebral structure presiding over the voluntary movements, transmitted sympathetical from the stomach.

The treatment was directed by this view. A tub of cold water from a well-pump was ordered, and a vein opened. While the blood was flowing, a stream of cold water was directed to the head, and cold water given in small draughts. At the commencement of the treatment, a convulsive paroxysm came on; it soon ceased, and proved to be the last—℥xx blood, subdued the vascular excitement. The cold drinks and affusion were in the highest degree grateful, and called forth, from the patient, the most extravagant expressions of the relief they afforded him. He now informed me, that the head and stomach were the seats of the anguish he experienced, and, that although he had been conscious of what he was doing, he could not control or restrain the violence of his muscular exertions.

Cloths dipped in cold water were applied to the epigastrium; iced gum water acidulated with lemon juice was directed to be given during the night; and a domestic clyster to open the bowels.

July 24. No return of convulsion; violent pain in stomach and bowels, attended with copious discharge of blood; pulse full and tense; v. s. ℥xii. injection of cold water; sal rochelle, ʒi. dissolved in a pint of water, wine glass full every hour; continue gum water.

July 25. Pain removed; discharge of blood per anum ceased after the first injection of cold water; skin soft and cool; pulse natural; tongue furred; continue gum water.

July 26. Convalescent.

CASE 2nd. January 3, 1826.—Called to see a man in the employ of a livery stable keeper, as an hostler; age, twenty-five; fair complexion, light hair and eyes; slight figure; a Swiss by birth; sanguine nervous temperament.

In the evening, immediately after having eaten supper, he had been seized with great distress, attended with violent convulsive efforts. I found him on the floor, struggling with several persons, who held him down. He uttered cries of anguish, seemed in great torture, was perfectly conscious, but could not express his feelings. When interrogated, he pointed to his stomach, as the seat of pain; the tongue scarlet red on the edges, and furred; the skin was cool, and pulse feeble. I was informed by his employer, an Irishman, that he had been very thirsty for several days, and had drunk large quantities of cold water, to which he attributed the present condition of the patient; and was very pressing with him to drink some whiskey, but which was rejected with an expression of horror. I also learnt, he had dined that day on salt pork and cabbage.

From these circumstances, it was concluded that the patient had laboured for several days under vascular sur-irritation of the stomach, evidenced by the extreme thirst he experienced, and which, increased by the indigestible meals he had taken that day, became complicated with nervous irritation, to which he was disposed by his temperament. The heart and arterial system had not yet become disturbed.

Two indications presented themselves; the first, to remove the indigestible contents of the stomach, the cause of the present mischief; the second, to reduce the sur-irritation of the stomach, and consequently its sensibility, when the stomach would cease to feel morbidly the irritation of its contents, and would resume its functions.

The first might be answered by emetics; but the strong irritation of the emetic might render the existing irritation of the stomach permanent; might produce continued fever. It was not a safe practice. The last, if it could be accomplished, was the most direct, and, at the same time, safest plan of proceeding. It was preferred. To a pitcher of cold pump water was added four ounces of sugar, and the patient was directed to drink of it, in small quantities, every few minutes. It was swallowed with the greatest avidity, and, had he been permitted, would have gorged himself with it immediately. Relief was almost instantaneous after the first draughts. The convulsive efforts ceased; the patient sat up, and could describe his sensations; he felt as if fire was in his stomach. A pediluvium was ordered, with warm fomentations to the abdomen, frictions to the extremities, and an injection into the rectum. On my return in half an hour, all the accidents were dissipated; the patient was sitting up, and in comparative ease. He had finished his pitcher of drink, and had commenced upon another. Vascular excitement had come on; ℥x. blood were drawn; the cold drink continued. Next morning, the patient was attending to his duties, and a regimen for a few days entirely restored the stomach to a healthy condition.

Case 3d. January 21, 1826.—A young gentleman, b[illegible] engaged in a frolic, drank a pint of undiluted gin, in the course [illegible] minutes, about eight o'clock, P. M. The usual effects we[illegible]erienced. He began to complain, after ten o'clock, of grea[illegible] about the stomach and head; and, about eleven o'clock, th[illegible]ation amounted to violent convulsive efforts of the muscular system, and cries for relief. Warm water was given to him; he vomited freely; no abatement of symptoms; laudanum and ether were administered to allay the convulsive spasms; increase of distress, and aggravation of convulsive throes, were produced. At one o'clock, I was requested to see him. I found him struggling with great violence, and held on the floor by several assistants. The face was flushed; eyes injected and fiery; pupils dilated; expression of anguish on the countenance; no appearance of coma or stupor; evident consciousness; skin hot; pulse large, full, and labouring. He had not conversed since eleven o'clock, but uttered cries of distress and pain; he was apparently in great torture.

Regarding the symptoms as depending on gastric, vascular, and nervous irritation, I gave him a tumbler of cold sweetened water. He drank it with avidity, and with an immediate abatement of the accidents; it was followed by a second, in a few minutes, and soon after he addressed me by name, entreating for relief. The cerebral irritation being still very strong, and the convulsive paroxysms returning, cold affusions were employed to the head, and a third glass of cold sugared water was given. Perfect calm of the muscular commotions was induced, and the patient could converse in a tolerably composed manner. He described his stomach as feeling contracted to the size of a nutmeg; and complaining of his head, and the general vascular system being in a state of high excitement, a vein was opened, and ℥xv. blood drawn. He was directed to be taken to bed, but the attempt to carry him up stairs renewed the convulsive paroxysm. A second affusion to the head, and another tumbler of water, restored him to tranquillity, and he now walked up stairs, with the aid of an assistant, to his chamber. The cold drink was continued through the night, which passed without a renewal of the convulsions. The time I was occupied with him, was twenty minutes.

In the preceding cases, the convulsive disturbance of the muscular system, originated from the gastric nervous irritation, which w[illegible]uperadded to vascular irritation, both excited by the same irr[illegible]. The irritation was transmitted to the cerebral centre of [illegible] sensations and volitions, whence was produced the convulsive [illegible]lar contractions of the voluntary muscles, under its influence. [illegible] sensibility of the nervous fibrils of the stomach, the point whence the irritation irradiated to the brain, depended on the nervous temperament of the individuals; that is, to the greater development and preponderance of their nervous system. The following case, in which a different temperament prevailed, and a different train of phenomena resulted from the same causes, contrasts very strongly with the preceding, and tends to confirm the principles that have been laid down.

Dennis Willey, an Irishman by birth, was employed as a labourer in a brick yard, in the extreme heat of July, 1825, the thermometer ranging in the shade from 90° to 98°. F. He is of short stature, has small head, low forehead, black hair and eyebrows, dark eyes and complexion, thick neck, large broad chest, strong and well marked muscles; temperament sanguine.

He had persisted through the day, at his work, unsheltered from the sun, from the 17th to the 19th, drinking whiskey and water to keep up his strength, though the other hands abandoned daily their labour, from noon until three o'clock. On the 19th, between one and two, Dennis was compelled to break off, and with difficulty could reach his home, a short distance from the kiln. He experienced nausea, had retchings, violent headach, and intense distress. In this state I saw him a little after two o'clock. He was rolling on the floor; the face of a deep red, with dark frown on the brow; skin dry and burning; the pulse larger and fuller than any I had before felt; the heart pulsated forcibly against the ribs; epigastrium tender, and pressure on it increased his distress; not the slightest convulsive movement; ℥xxx. of blood were drawn; cold ablutions directed to the head and body, and small draughts of cold water; as the temperature diminished, affusions of cold water, first to the head, and then over the whole body, were practised. In fifteen minutes, complete relief of the accidents was obtained. The next day, the patient returned to his work, but with more caution.

In the above case, nervous irritation was not awakened in the stomach, and, consequently, was not transmitted to the brain. The subject, from the little development of the nervous system, of which his physiognomy and whole corporal facies gave the strongest indication, possessed but a moderate share of sensibility, and was not disposed to nervous irritation. In him, the vascular was the predominant system, and experienced the full force of the irritation to which he was exposed.

My friend, Dr. La Roche, has promised to close this communication, with the relation of a case of a similar character to the three first I have detailed, which occurred in his own practice, and which corroborates, both, the views that have been given, and the treatment pursued.

Mrs. F——, about thirty years of age, of a sanguine and nervous temperament, was attacked about four years ago, whilst residing in the State of Alabama, with a violent pain in the epigastric region, attended with vomiting. It occurred soon after dinner, and was probably caused by something she had eaten. No physician being at hand, her husband gave her teaspoonful doses of laudanum and chamomile tea, which, however, were ejected from the stomach with considerable efforts, and an aggravation of the symptoms. The gastric irritation and pain soon became so violent, as to occasion severe convulsive movements in almost every muscle of her body, and to deprive her of her senses for more than six hours. From this very severe attack she, however, recovered, more by chance and through the efforts of her good constitution, than from the effects of medicine. Since that period, she has continued subject to this complaint. The attacks are more or less severe, are brought on by the slightest irregularities in regimen, and are in general with difficulty removed.

At two o'clock on the morning of the twenty-third of April last, she was once more attacked with this painful complaint, and suffered severely until eight o'clock, when I was requested to visit her. I learned from her friends, that she had been slightly indisposed for a few days, and had eaten the preceding evening a small portion of lobster. This, together with the greater part of what she had eaten during the day, had been ejected from the stomach a short time previous to my visit. I also was informed that she had taken twenty drops of laudanum, warm teas, and that warm flannels had been applied to the region of the stomach. Her pain was now hardly to be endured; the muscles of her upper extremities, as well as of her neck and face, were spasmodically contracted; her skin was covered with cold perspiration, and her pulse, in the short intervals of the convulsions, was found to be greatly accelerated. Judging, from the severity of these symptoms, that no time was to be lost, and influenced by former prejudices, I immediately directed forty drops of laudanum to be administered in combination with a little of the essence of peppermint, (Mrs. F. never taking laudanum without it,) and a perseverance in the warm tea, &c. A short time after the exhibition of the laudanum, the pain was aggravated, but soon was a little relieved, in consequence of vomiting supervening. Another dose was soon administered, which again occasioned an increase of the symptoms, and brought on vomiting, by which the stomach was completely cleared. A mustard poultice was ordered to be applied to the epigastric region; but, as it required some time to be prepared, I judged it adviseable to resort, in the mean time, to something, to lessen, if possible, the sufferings of the patient. As laudanum and other remedies usually applied in such cases, instead of abating seemed to aggravate the pain, I determined to give a trial to cold water, as prescribed in nearly similar cases by my friend, Dr. Jackson, of this city. A tumblerful of very cold spring water was in consequence procured, one-half of which the patient was requested to take immediately. In less than three minutes, some relief was obtained. An equal quantity of the water was given with a still greater, and, indeed, a remarkable mitigation of the pain.

The poultice was now applied, and was about ten minutes before producing an inflammation in the skin. During the time, however, Mrs. F. had drunk a second tumbler of the water, had slept a few minutes, remained free from spasms in the muscles, and felt completely relieved from the pain. The poultice was taken off about fifteen minutes after its application, and the patient directed to drink frequently through the day of water sweetened with orange flower sirop. In the afternoon, she experienced some slight spasmodic pains in the stomach, in consequence of eating thin sago, but found relief in a draught of her water. The tongue, however, remained red and somewhat parched; the pulse was quick; skin a little hot; the head painful, and the thirst considerable. The water was directed to be continued, and an emollient injection ordered, in order to relieve a sense of weight and uneasiness in the bowels. The next day, I was very happy to find that all signs of gastric irritation had subsided. The bowels being costive, and the tongue a little foul, but pale, a dose of epsom salts and calcined magnesia was prescribed, and served to remove every vestige of the complaint. With the exception of the irritation caused by the mustard, Mrs. F. was immediately restored to perfect health.

As may readily be conceived, the favourable issue of this case, under this plan of treatment, was well calculated to make a powerful impression on my mind, and to lead me to the determination, to resort early to the use of cold water, in all cases of painful and spasmodic affections of the stomach, which might, henceforward, present themselves to my observation. I can hardly believe, that the relief afforded in this case can be attributed to any of the means resorted to, other than the water; since the remedies, previously administered, certainly aggravated the symptoms, and ease was afforded to the patient, before the mustard had time to occasion redness of the skin, or the slightest sensation of heat and pain. If this conclusion be admitted as correct, then the above case must be viewed as interesting in many points of view. 1st. It shows the effect of cold water in calming nervous as well as subsequent vascular irritation of the stomach. 2nd. It proves that mere nervous irritation, which is usually thought to require the use of narcotics, antispasmodics, and even diffusible stimuli, may be cured by the same remedies as inflammation, namely, direct sedatives. 3d. It serves to show, also, a striking contrast between the effects of the turbulent practice, too often pursued in gastric irritation, and those of the sedative and soothing plan, recommended by the French physicians of the present day.

ARTICLE IV. *Remarks on the Pathology of Jaundice.* By G. B. WOOD, M. D.

I HAVE long entertained certain opinions relative to the pathology of jaundice, the importance of which I perhaps overrate, when I consider them worthy of being presented to the notice of the medical public. They are, however, the result of considerable observation and reflection; and, as an account of them will occupy but little space, its admission into the North American Medical and Surgical Journal may not be deemed exceptionable.

In order to be correctly understood, it is necessary that a precise meaning be attached to the terms we employ. I shall, therefore, state, in the outset, that in using the word jaundice, in this essay, I restrict its application to that form of disease, in which, with the discolouration of the skin and urine from the irregular presence of bile, is combined an unnatural whiteness or light colour of the alvine evacuations, arising from the absence of this fluid. To those instances of yellow skin and bilious urine which frequently attend hepatic inflammation, and various forms of fever, and in which the flow of bile into the intestines does not seem to be interrupted, I have at present no allusion. Depending on different causes, and requiring different modes of treatment from the disease of which I am about to speak, they have no claim to rank with it in any treatise on the subject.

So far as I have been able to learn, from the examination of numerous authors, jaundice is uniformly attributed to some obstruction to the discharge of the bile, seated either in the excretory ducts, or in the substance of the liver. Thus, among the causes usually enumerated, are biliary calculi; stricture from spasm, or inflammation, or the pressure of neighbouring organs, in an enlarged and indurated state; inspissated bile or mucus; and scirrhous induration or calculous depositions in the liver itself, preventing the escape of the bile from the cells into which it is secreted. It is certain that most of these causes occasionally give rise to jaundice; but I suspect that in the great majority of cases, the disease is wholly independent of any obstruction, either in the liver or its ducts. To this conclusion I have been led by the following, among other considerations.

Supposing the bile to be prevented, by some impediment in its ordinary passages, from escaping into the intestines, while its secretion continues to go on as in health, it will necessarily be accumulated in the gall-bladder and ducts behind the place of obstruction, and, in a short time, will produce such a degree of distention, as must not only be evident to external examination, but must also prove exceedingly painful, and ultimately, if not relieved, destroy life. It may be said that such an accumulation would be prevented by the action of the absorbents; but against this opinion we have the analogy of the urinary bladder, which is not so different in its structure from the gall-bladder, that it should be subjected to laws directly the reverse; and we know that all the consequences above stated do result from an obstruction to the passage of the urine: and, indeed, in those cases of jaundice, in which we have every reason to believe that an obstruction really does exist, the same consequences are, to a greater or less extent, uniformly experienced. In such instances, there is, during life, much fulness, with pain and tenderness in the region of the liver; and, after death, the gall-bladder is often found enormously enlarged. Now in the great majority of cases of jaundice which have fallen under my observation, the patients have complained of little or no pain in the right side, but have referred their uneasiness entirely to the stomach and bowels, in which a certain indescribably wretched sensation was experienced, more unpleasant even than pain, and accompanied with great mental depression. Neither have I been able to discover any extraordinary tenderness on pressure, or the slightest external marks of distention. The uniformly favourable termination of these cases has not allowed me an opportunity of making post-mortem examination; but we have accounts of dissections in individuals who have died while labouring under jaundice, in which no sign of disease whatever was discoverable in the liver or any of its appendages. It is said that the disease, in such instances, depends on spasm in the ducts; but this supposition is gratuitous, and contradicted by the absence, during the life of the patient, of those symptoms which mark the existence of spasm. In other cases, dissection has exhibited the passages filled with a thick, tenacious mucus, which was, therefore, supposed to have been the cause of obstruction. But we do not find that other excretory ducts, as those of the kidneys, bladder, and salivary glands, are liable to be thus closed up by a diseased mucous secretion; and it is hardly probable, that such is really the case with the ducts of the liver. I am inclined to think, that the inspissated mucus which dissection is said to have revealed, had its origin in the inactivity of the ducts, depending on the absence of bile, their proper stimulant. Suppose the biliary secretion to have ceased; the gall-ducts, having no office to perform, become inactive; their own mucus, unable to excite them, is accumulated in their cavity, and becomes inspissated by the absorption of its watery parts: hence, what was supposed to be a cause of the disease, is, in fact, merely a consequence. In a similar manner may be answered the observation of Dr. GOOD, which he advances to prove, that *inspissated bile* is a frequent cause of that obstruction which gives rise to jaundice. "There are few observant practitioners," says the Doctor, "but must have remarked that the evacuations, whether by the mouth or the anus, when the obstruction is just removed, consist at all times of nearly pure bile, peculiarly tenacious and high coloured." It appears to me that, like the impacted mucus, this tenacious bile is a result, and not a cause. If the liver should all at once cease to secrete, a portion of bile would still remain in the gall-bladder, and, as this viscus very seldom entirely empties itself, would continue in the same place till the renewal of the secretory process. Exposed to the action of the absorbents, it would lose its more fluid parts, and become thick and tenacious. Upon a revival of the hepatic function, this would, in all probability, be among the first portions of bile discharged; and hence the phenomenon to which Dr. GOOD alludes.

From what has been said, it will have been perceived that I am inclined to the opinion, that jaundice, in most cases, depends upon a deficient or altogether suspended *secretion* of bile, not upon any obstacle thrown in the way of its *excretion*. But if this is really the case, how shall we account for that wide dispersion of the bilious fluid, which is the most striking characteristic of the disease?

One object of the liver is undoubtedly to eliminate from the blood some principle or principles, which, if allowed to remain in the circulating mass, would prove deleterious to the system. By a happy provision of nature, when the hepatic vessels have been rendered incapable of performing their office, a portion of their power is transferred to other vessels, and the noxious principle is thrown out of the circulation by the skin, the cellular membrane, the kidneys, and other glands, and secreting surfaces. That such a vicarious power is one of the natural properties with which the system has been gifted for its own preservation, is a fact too well known to require extensive illustration. The hemorrhage from the lungs, the stomach, and the hemorrhoidal vessels, consequent upon a suppression of the menses, is often, I believe, as much a secretion as the menstrual discharge itself. *When perspiration is suppressed, an increase of acid in the urine is not an unfrequent occurrence; and cases are recorded, in which a urinous smell has been imparted to the perspiration by a cessation of action in the kidneys. That the office of the liver should occasionally be partially transferred to other organs, cannot, therefore, be regarded as an anomaly.

But I do not contend that in cases of jaundice it is perfect bile, identical with that elaborated by the hepatic vessels in their healthy condition, that is thrown off by the skin and kidneys. It is probably nothing more than that peculiar principle to which bile is indebted for its colour, that is thus thrown off. This principle may be to the bile, what urea is to the urine. Now we are assured by experiments of recent date, that in the blood of animals whose kidneys have been extirpated, urea exists so abundantly as to be readily discoverable by means of chemical agents. Why should not the colouring principle of bile be equally abundant in the blood, when the secretory action of the liver is suspended? Such, I believe, is really the case. We observe it imparting its colour to the serum; and, as its redundancy must be highly injurious, we can readily imagine that every passage will be open for its escape from the system. It is probably, therefore, this constituent of bile, and not bile itself, which gives to the eyes and skin of jaundiced patients their peculiar hue.

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* It is well known that acid matter is contained in the perspired fluid.

Whether its existence in the blood is natural and uniform, or merely occasional, dependent on the cessation of the hepatic function, is a question, which, though highly interesting in itself, has, however, no material bearing on the subject of this essay. On either supposition, the occurrence of jaundice, from the cause to which I am inclined to attribute it, may be explained with equal facility. The first, however, appears to me to be much the more reasonable. To this opinion it is no objection, that this colouring matter is a proximate principle of a secreted fluid; for we know that more than one of the essential constituents of the blood pass, without material change, through secreting vessels: nor is it an objection, that chemical tests do not give evidence of its presence in the serum; for, though the quantity may be considerable, yet, diffused through the whole circulating mass, it may be so diluted as readily to escape the imperfect means of analysis which have hitherto been employed. In favour of the opinion, we have the uniform greenish-yellow colour of the serum, which is not essentially connected with any one of the constituents which chemistry has pointed out, and is, therefore, in all probability, inherent in some distinct principle which it is reasonable to conclude is identical with that of bile. Another argument in support of the same opinion, may be drawn from the facility with which the colouring matter of the bile is absorbed, and conveyed into the circulation. We know that the absorbents have a very considerable power of assimilation, by which the various matters which they take up in different parts of the system, are converted into a fluid homogeneous in itself, and well adapted to mix with the blood, without effecting any material change in its properties or constitution. Is it probable that they would allow the colouring matter of bile to pass through them, without undergoing the assimilating process, were it not one of those proximate principles which naturally enter into the composition of the blood, and to which, therefore, they have no right to refuse admittance?

Admitting the correctness of these views, I would briefly state my theory relative to jaundice in the following words. There is a certain proximate principle in bile, upon which its colour, and, perhaps, its most important properties, depend. This principle exists also in the blood as one of its natural constituents, being generated by the same powers by which the other ingredients of this fluid are elaborated. Having a tendency to accumulation, and in this state being injurious to health, it is constantly thrown off by the hepatic apparatus, which has been provided for this, among other purposes in the economy of our system. But from various causes, the secretory action of the liver is greatly diminished or altogether suppressed. As a necessary consequence, the colouring matter becomes redundant; and as dangerous effects might follow if its redundancy should be allowed to remain and increase, nature has provided other avenues through which it may be expelled. It is, therefore, thrown out of the circulation into the bladder, upon the skin, cellular membrane, and elsewhere; and thus the symptoms of jaundice are produced.

I will here, however, repeat what I have before observed, that this theory is not exclusive. Numerous cases of jaundice undoubtedly occur, which arise altogether from obstruction to the flow of the secreted bile. These are far more dangerous than the other form of the disease, and having not unfrequently terminated in death, have given strength, by the evidence yielded on dissection, to the prevailing doctrine on the subject of this complaint.

To the causes and treatment of jaundice, I shall refer only so far as they may tend to illustrate the pathological views above detailed.

Considering the intimate connexion, by sympathy, between the skin, the stomach, and the liver, we can find no difficulty in admitting, that by numerous impressions on the two former organs, the functions of the last may be so far suspended as to give rise to the disease. The depressing emotions of the mind have long been ranked among the causes of jaundice; and instances are even mentioned, in which an attack has almost immediately succeeded a paroxysm of intense mental agony. It has usually been supposed, that the proximate cause, in such cases, is a spasmodic contraction of the gall-duct; but a more reasonable explanation can, I think, be given in accordance with the views I have advanced, the correctness of which may, perhaps, derive some confirmation from this circumstance. It is well known that grief, anxiety, and other analogous mental emotions, have a direct influence on the hepatic organs, the energies of which they have a tendency to debilitate, and, if indulged to excess, may for a time altogether paralyze. A sudden access of violent passion may, therefore, produce as sudden a suspension of the hepatic secretion, and jaundice may thus be speedily developed.

But it is upon its applicability to practice, that the claims of this theory must principally rest; and if it should be found to afford an easy and natural explanation of the operation of those remedies which experience has proved to be useful, and thus enable us to prescribe more upon principle, and less empirically than we have usually done in this complaint, a great point in its favour will have been established. I shall give a slight sketch of the prominent remedies, and it will be seen how far they are compatible with that pathology which attributes jaundice to a partial or entire suspension of the secretory function of the liver.

Emetics are often administered with great advantage. The shock they produce upon the stomach, sympathetically rouses the vessels of the liver to action; and the same effect is also, in some measure, experienced from the violent mechanical concussion to which the latter viscus is subjected. A flow of bile is one of the most common consequences of the operation of an emetic, even in a healthy state of the hepatic function; and in jaundice, much relief is, in frequent instances, almost immediately obtained.

Brisk cathartics probably act upon the same principle. Their powerful impression on the mucous membrane of the bowels is extended by sympathy to the liver; and the secretory vessels of both organs are excited to increased action. But our principal reliance should not be placed on these remedies. They are useful, in the commencement, both by the effect already alluded to, and by cleansing the alimentary canal of irritating matters; and they may occasionally be resorted to in the course of the treatment, when the disease resists more lenient measures. Their too frequent administration, beside the injurious effects it produces on the stomach and bowels, and through them, on the system at large, may tend, by the over-excitement and consequent collapse of the liver itself, to render still more obstinate the disease it is designed to alleviate.

I am in the habit of trusting the cure of jaundice very much to an alterative course of mercury, combined with gentle cathartics. A grain or two of calomel in the evening, and a moderate dose of epsom salts in the morning, continued many days successively, will often be found to have more influence, by gently soliciting the liver to action, than the scourging of more violent remedies, to which it is, perhaps, too often subjected. There is nothing new in the practice: but I have probably been induced, by my views of the nature of the disease, to place more reliance in its efficacy, and therefore to use it more systematically than most of my brother practitioners.

Many other remedies are used in jaundice, and most of them with occasional advantage. Among these, soap and the alkalis, in large and frequent doses, have obtained so high a reputation as to be considered, by some physicians, almost in the light of specifics. Their mode of operating may be readily explained. Entering the circulation, they reach the vessels of the liver, and stimulate these to increased secretion, precisely as they stimulate the vessels of the kidneys, and augment the discharge of urine. The notion that they dissolve the obstructing matters in the gall-ducts, and thus open a passage for the bile, is, I think, unworthy of the present improved condition of medical knowledge.

Electricity, made to pass through the liver, has sometimes been employed in the cure of jaundice, and for a very obvious reason, with highly beneficial effects. The vegetable and mineral tonics are occasionally useful, by giving vigour immediately to the debilitated stomach, and secondarily to the liver. In domestic practice, various bitter teas, such as those of centaury and the wild cherry bark, are possessed of no little reputation; and I think I have seen them given with advantage, after the stomach has been properly prepared for their reception. But this class of medicines is best adapted to that stage of the complaint, in which, after the restoration of the biliary secretion, the enfeebled powers of digestion call for support. The necessity for calming the stomach, and preventing, as much as possible, its injurious reaction on the hepatic system, renders an attention to diet of high importance. Light and easily digested food is obviously indicated.

But my object is not to present a complete view of the treatment of the disease. An account of the various remedies may be found in any of the practical systems of medicine. They differ according to the peculiarities of cases; and in such as obviously depend upon obstruction, must evidently be adapted to the nature of the obstructing cause.

I will make only one other practical remark. The vessels of the liver may cease to perform their office, not only from torpor or debility, but also in consequence of constriction, resulting from too great excitement; and the symptoms of jaundice will equally result in either case: but in the latter, the symptoms will approach nearer to those which mark the cases of obstruction. There will be pain and a sense of fulness in the side, with tenderness on pressure, and more or less of febrile action. It is evident that, under such circumstances, general and local depletion, and those other measures which are calculated to diminish excitement, should, in the course of the treatment, precede the use of the ordinary remedies.

To those who may have read this paper, it will, perhaps, appear somewhat singular, should I state that I am no friend to hypothesis. Doctrines, first adopted from their apparent beauty or ingenuity, and then applied to the explanation of phenomena, are undoubtedly injurious in their influence, as they lead us to bend and distort facts in order to adapt them to our opinions. If to such doctrines the meaning of the term hypothesis be exclusively confined, I can truly say, "hypotheses non fingo." But it is desirable, that in the practice of medicine, we should reduce our scattered facts into order, and endeavour to establish certain fixed principles to guide us. It appeared to me that the ordinary opinions on the pathology of jaundice were defective, as they did not satisfactorily account for either the phenomena of the disease, or the effects of the remedies. It was natural to look about for some other mode of explanation, and having found one more satisfactory to my own mind, I may be excused for the desire of making it known to the profession. The same thoughts may have occurred to others, and have been deemed unworthy of their own or the public attention; and it is possible that similar opinions may have been recorded in some of the innumerable medical works which have been presented to the world. But I have neither heard them in conversation, nor seen them on record; and, perhaps, it will be thought that the profession would not have suffered, had the author of this paper allowed his theory either to have died in its conception, or at least to have retained its existence only in his own breast.

ARTICLE V. *Account of a case, in which a new and peculiar operation for artificial anus was performed, in* 1809, *by* PHILIP SYNG PHYSICK, M. D., Professor of Surgery in the University of Pennsylvania, &c. Drawn up for publication by B. H. COATES, M. D.

THE performance and success of this operation, in the case we are now about to recite, are well known to American physicians, through the medium of the public lectures on surgery; but, as inventions of this kind are generally matters of record, and are the property, not merely of a particular nation, but of the world at large, it is proper to comply with the custom of mankind, by publishing an authentic account of them.

The numerous engagements of an active life, and the consciousness that a knowledge of the fact was widely disseminated by the means above alluded to, have prevented the author of this operation from committing it to print. It has, however, been uniformly taught, every winter between the years 1809 and 1821, by Dr. PHYSICK, in his lectures on surgery, to classes of from three to four hundred students; and it is generally understood to be described in all the various courses on this art which are delivered within the United States. Still, however, it was desirable that there should be somewhere preserved an historical account of it; and, accordingly, we find one in the manuscript case-book of the Pennsylvania Hospital, in which this article was inscribed by Dr. HUTCHINSON, late of this city, then a resident pupil in that institution. From this, aided by some other notes which are in our hands, and which possess the highest authority, we have compiled the following statement. We omit many details, though we retain, perhaps, more than are absolutely necessary; the operation having had ascribed to it, in foreign countries, more importance than was originally attached to it by its inventor.

John Exilius, a Swedish sailor, aged nineteen years, was admitted into the Pennsylvania Hospital on the morning of the 20th of October, 1808, affected with a congenital hernia. He stated that he had passed the last fourteen days without having had a stool, and that, on the 19th, he had been affected with stercoraceous vomitings. These were renewed after his admission.

After several other means had been employed to produce a reduction of the hernia, the operation was proceeded to, at half past three o'clock the same afternoon, by the late professor Wistar, in the presence of Dr. Physick.

The sac being opened, the intestines were found firmly adherent to the testicle, and partially so, but with equal firmness, to the abdominal ring; so as to account for the impossibility of effecting a reduction by the taxis. They appeared to be a part of the ileum. A perforation existed in the side of one of them, of sufficient magnitude to permit the discharge of a considerable amount of fæces. There were, however, no marks of mortification found; and the opening appeared to be the product of mere ulceration.

After the removal of the stricture, and the application of a dressing, a dose of laudanum was administered, and the patient was returned to his bed.

Much enlargement of the abdomen continued, accompanied with great general restlessness; and but a small quantity of the fæces was discharged from the wound, though various means were employed to procure their expulsion. On the 22nd and 23d, stercoraceous vomiting returned; and it was not till the 23d that much relief was obtained. This was the result of a copious discharge, produced by the injection into the bowel of an infusion of senna. On the 24th, Dr. Wistar divided a small portion of the tendon of the transversalis abdominis, as well as of the neck of the sac; from which ensued much greater facility for the escape of the fæces.

On the 30th of October, the patient, by the regulations of the hospital, came under the care of Dr. Physick.

On the 24th of December, the projecting portion of intestine was cut off close to the ring. This was done under the expectation that the open orifices thus left in the intestine would gradually be retracted within the abdomen. On applying a ligature to a divided mesenteric artery, severe pain was produced in that cavity, which was relieved by rhubarb, laudanum, and anise seed. After waiting some time, and finding that the retraction did not take place, as hoped for, another process was resorted to. A roll of waxed linen, such as is used in making bougies, and of the size of the fore-finger, was bent double, and each end introduced into one of the orifices of the intestine. The dresser then pressed the angular part of this tent backwards, in such a manner as to approximate the adherent intestine to a straight position. So much pain, of a kind similar to colic, was produced by this pressure, that the plan was necessarily abandoned. The two ends of the intestine were found, by a careful examination, to adhere to each other for some distance; and the form, thus presented, has been compared, in this case, to that of a double barrelled gun.

The next method proposed by Dr. Physick, was to cut a lateral opening through the sides of the intestine, where they were adherent. But, not knowing the extent of the adhesion inwards, he thought it necessary to adopt some preliminary measure for ensuring its existence to such a depth as might admit of the contemplated lateral opening, without penetrating the cavity of the peritoneum. By introducing his finger into the intestine through one orifice, and his thumb through the other, he was enabled to satisfy himself that nothing intervened between them, but the sides of the bowel. He was thus enabled, without risk, to pass a needle armed with a ligature from one portion of the intestine into the other, through the sides which were in contact, about an inch within the orifices; which ligature was then secured with a slip-knot.

This operation was performed on the 28th of January, 1809. The ligature was merely drawn sufficiently tight to ensure the contact of those parts of the peritoneal tunic which were within the noose. When drawn tighter, it produced so much pain in the upper part of the abdomen, of a kind resembling colic, that it became necessary immediately to loosen it. The ligature, in this situation, gradually made its way by ulceration through the parts which it embraced, and thus loosened itself. It was, at several periods, again drawn to its original tightness.

After about three weeks had elapsed, concluding that the required union between the two folds of peritoneum was sufficiently ensured, Dr. Physick divided with a bistoury all the parts which now remained included within the noose of the ligature. No unfavourable symptom occurred in consequence.

On the 28th of February, the patient complained of an uneasy sensation in the lower part of the abdomen; and, on the 1st of March, he extracted with his own fingers some portions of hardened fæces from his rectum. On the 2nd of March, two or three evacuations were produced in this manner. On the 3d, an enema, consisting of a solution of common salt was directed to be given twice every day. The first of these occasioned a natural stool, about two hours after its administration. The same effect was produced on the 4th, 5th, and 6th; and the discharges from the orifice in the groin now became inconsiderable. Adhesive plasters, aided by compresses, were employed, not only to prevent the discharge of fæces from the artificial opening, but with the additional object of procuring the adhesion of its sides. This last effort was unsuccessful.

On the 24th of June, an attempt was made to unite them by the twisted suture. Pins were left in for three days, and adhesion was, in fact, effected; but, owing to the induration of the adjacent parts, the wound again opened.

On the 27th of July, a truss, of the common construction, furnished with a very large pad, and surmounted by a large compress, was applied to the wound. By these means, the discharge of fæces from the groin was completely prevented, and the patient had regular evacuations per anum; except when, from improper diet or cold, he became affected with diarrhœa. At such times, a small portion of the more fluid matter escaped by the sides of the compress.

Not satisfied with this state of things, Dr. Physick made several attempts to improve the patient's condition. On the 2nd of August, a mould of the parts was taken in plaster of Paris; and, being covered with buckskin, was employed as a pad for the truss. This expedient answered extremely well, as long as the patient continued in the same posture in which the mould was made; but as soon as the form of the parts was altered by a change of position, fæces escaped from the orifice. A bandage was then applied to the body, furnished with a thick compress, and having that part of it which crossed the patient's back formed of elastic, extensible, wire springs, such as are used in suspenders. This also, however, proved ineffectual. The truss, with a compress and a large pad, stuffed in the common way, was then re-applied, and found to answer completely the purpose of preventing the discharge of fæces; the hope of an entire closure of the orifice being abandoned.

On the 10th of November, he was discharged from the hospital, in good health and spirits, and applied himself, with very good success, to acquire the profession of an engraver.

The cure of artificial anus, in the small number of cases where it has been achieved, has been produced by making firm compression on the point of junction of the two divided intestines, while, at the same time, the lower end is dilated by a tent or roll of lint. It is stated by M. **Murat**, in the Dictionnaire de Medecine,* that **Frederick Smakalden** *proposed*, in 1798, the division of the intermediate sides of the two bowels. No directions, however, are given, nor any account of the mode by which peritoneal inflammation was to be avoided. The above exemplified method was invented by Dr. **Physick**, while actually attending the case; and was not suggested by any hint derived from **Smakalden**, whose name is quite unknown to our ears, and to the catalogues of our libraries. Since then, a method, differing in some peculiarities, but apparently borrowing the principal idea from the above case, has been put in practice, and published by the celebrated M. **Dupuytren**. It was not, however, invented until after repeated trials of another method, which we shall describe; but which was far from meeting with a satisfactory course of success. The objects in view were exactly similar. After ascertaining, by the introduction of the fingers, the extent to which adhesion existed between the two portions of the intestine, M. **Dupuytren** divided, every day, a quarter of a line, (the forty-eighth part of an inch,) of the double partition, with a pair of scissors. The inflammation which was produced by this operation was considered as extending the adhesion with sufficient rapidity to admit of its daily repetition. By this means, in some instances, a sufficient opening was effected; and the patient was considered cured, notwithstanding the frequent continuance of a fistulous orifice allowing the discharge of fæces. In other cases, this operation was followed by the loss of life.

This unfortunate circumstance led M. **Dupuytren** to the invention of the instrument which he calls an *enterotome*, the object of which is to produce the same effect that Dr. **Physick** obtained by a ligature and scissors; and which Mr. D. recommends for all cases of artificial anus. The enterotome consists of two blades of steel, four inches long, provided, on the edges directed towards the other, with a series of notches and blunt teeth. The blades are made to close, one of them entering into a groove formed in the other, by means of a screw situated near the hinge. One blade of this instrument is inserted into each of the two orifices; and, by means of the screw, they are so closed as to compress the sides of the intestines, and bruise them between the blunted teeth. The usual care is, of course, requisite to prevent the introduction of any other part within the grasp of the instrument. The irritation of this process produces, in succession, the adhesion of the adjacent peritoneal coats, and a *softening*, ulceration, and total destruction of the membranous partition, thus leaving a complete opening for the passage of the fæces. So far, the account of M. Murat. We have been informed, however, by various medical gentlemen who have been in Paris, that M. Dupuytren contents himself, in the use of the enterotome, with the certainty of adhesion; and, when satisfied that this has been effected, divides the adherent parts in the manner practised by Dr. Physick. We have also seen a contrivance of the former eminent surgeon, intended to replace the twisted suture, in bringing together the edges of the external wound. This consisted in two steel plates, covered with stuffed buckskin, and connected to each other by an arrangement of rods and screws, in such a manner as to press together the sides of the orifice. By these processes, combined with a proper regulation of their diet, M. Dupuytren has met with repeated success. It does not appear that his attempts have been without failure, nor that he could prevent the continuance, in numerous instances, of a fistulous opening.

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* Vol. XI.

From a recent treatise on the instruments of surgery, published at Paris, it appears that M. Dupuytren has since produced a new form of the enterotome, which he considers as improved. The only material change consists in preserving an entire parallelism between the blades; thus enabling them to operate on a considerable length of the intestine at the same time, instead of commencing the pressure, like a pair of scissors, near the hinge. This effect is obtained by means of transverse slides; which require an increase of three inches in the length of the blades, and, of course, greatly augment and perhaps double the weight.

With regard to the choice between these two operations, it appears to us clear, that, without our being influenced by national prejudices, there are abundant grounds for a distinct preference of the American over the French mode of treatment. Of the compressor which we have just described, we cannot speak with knowledge and decision. It does not seem to us to be well or conveniently adapted to exert the desirable pressure on the sides of a callous opening. It seems to us difficult to apply. Indeed, the silence of M. MURAT on this subject, in November, 1824, is of itself a strong ground of presumption that it has been forgotten, or considered as a failure, at the place where it had its origin.[*] As to the *enterotome*, we must confess we think it a clumsy substitute for a ligature. The reader has, doubtless, observed, in perusing the preceding narrative, the extreme distress which was produced by simply drawing the ligature too tight. How then can parts like these endure being pinched and bruised to ulceration and death by a pair of notched steel blades? "But," it may be said, "this tight application and long continuance of the instrument is not necessary; it may be used merely for producing adhesion, and the parts be afterwards divided by the scissors." Yet we find M. MURAT describing the former as the process actually performed and taught by M. DUPUYTREN himself. And, besides, if we suppose the more moderate plan to be followed, which is what we should expect from so eminent a surgeon, if we prefer the verbal accounts given us by our friends to the *litera scripta* of the last named author, still we think we can see a decided superiority in the simpler method. The enterotome we saw, weighed at least four ounces. Now, with any gentleness and moderation in its application, supposing the surgeon to be entirely freed from the temptation afforded by the screw to tamper unnecessarily with the instrument, (no small danger, as practical men know,) the mere presence of such a dragging weight, fastened in a man's intestines, is of itself a very serious objection, and cannot fail to be followed by the greatest sympathetic irritation, both of the kind met with by Dr. PHYSICK, and of a more febrile character. The mischiefs produced by the introduction of hard bodies into unnatural orifices in viscera, are of too serious a description to be lightly incurred. Now, in these respects, there is such a decided superiority in the ligature and slip-knot, that we cannot for a moment refrain from giving a decided preference to them, and respectfully, but earnestly, recommending them to our countrymen, as superior to any other known means.

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[*] From the last edition of the "Medecine Operatoire" of Sabatier, it appears that M. DUPUYTREN has abandoned the use of this instrument. The enterotome was invented in June, 1813.—*Communicated.*

ARTICLE VI. *Observations on Asphyxia from Drowning, to which is added a case of Resuscitation.* By EDWARD JENNER COXE, M. D.

THE very great attention that has been paid to asphyxia from drowning, since the first attempts towards resuscitation, which are generally believed to have originated in Holland, and the importance attached to it, as proved by the great number of institutions established for the same purpose in almost every quarter of the world, render it a subject of the greatest interest. In this country, so abundantly supplied with water, it would naturally be supposed, that a great number of deaths from drowning would annually occur, which being the case, it becomes a duty to inquire why so few cases of resuscitation are recorded by those physicians to whom these melancholy accidents present themselves. Among the many cases of asphyxia from drowning, published in the newspapers of the different States of this Union, so uncommon is it to read of a case of resuscitation, that were a record of them presented to the public, I do not believe more than one out of twenty or thirty would be found to have had the vital spark rekindled. The length of time the body remains immersed, appears to have no influence upon the result of the exertions towards resuscitation; for in many instances, the body, when taken out of the water, has exhibited some slight appearances of life, which, however, those present were unable to restore to that natural state, thereby enabling the different organs to resume their healthy functions. I am disposed to believe that this uniform want of success depends as much upon the little attention directed to the proper remedies to be employed, as to the opinion so universally prevalent, that when an individual is drowned, the prospect of resuscitation is so small, that it is considered unnecessary to continue the proper exertions beyond a limited time, which, I venture to assert, is not in one case out of twenty one-fourth as long as it should be. If this is really the case, and I found my belief upon the success observed in other countries, does it not become the duty of every individual to exert his utmost endeavours to overturn so erroneous an idea, which has been the cause of the loss of so many valuable lives to their country. By referring to the Annual Report of the Royal Humane Society of London, for 1812, for the recovery of drowned persons, it will be seen, that in one year, "1811," out of 153 cases of suspended animation from drowning, 133 were, by proper exertions, restored to life, and in the next year, "1812," 108 successful cases are reported out of 127. From the commencement of that society to the end of 1812, 7536 cases have come under its notice, of which number 3639 were successful. It is the opinion of that society, that this surprising success is to be attributed as well to the rewards proposed and punctually paid, as to the improvements in the means of resuscitation.

It must be evident to every one that it is impossible to determine the precise time that our exertions should be continued, as that must vary in proportion to the time the body has been immersed, and to the vis vitæ which, we all know, varies in different individuals. When we, however, consider the importance of the object, that of restoring the corporeal and mental functions to a body apparently deprived of life, no one will ever regret having toiled for two or more hours, even should his exertions prove unavailing. FODERE mentions the case of a woman who had remained a quarter of an hour under water, and was resuscitated after four hours continuance of the best remedies, by MM. RAPATEL and LELLEAU.*

Notwithstanding the great attention paid to the subject of water getting into the lungs, and the immense number of experiments performed to determine this point, the opinion of medical men appears to be as contradictory as though a single experiment had not been resorted to. Experiments performed by some of the ablest members of the medical profession, present in their conclusions as great a difference as does day from night. One circumstance which must exert a powerful influence over all experiments has in general been overlooked, or, if thought of, has not been mentioned. I mean the principle of life, which occasions in all the diseases, to which mankind is subject, such a complication of symptoms, and a correspondent difference in the action of remedies. Dr. A. FOTHERGILL, in his new inquiry into the suspension of vital action in cases of drowning and suffocation, published in 1795, comes to the following conclusions respecting this subject, founded upon the experiments of others. 1st. That when an animal is kept under water during the exertions to inspire, a small quantity of water enters the lungs. 2nd. That the lungs often appear unaltered, sometimes in a collapsed state; but if the animal is often suffered to rise to the surface of the water, so that he may inspire air, those organs appear distended. 3d. That a quantity of frothy fluid, consisting of air and mucus, with a little of the water in which the animal was drowned, may *generally* be squeezed out of the windpipe. 4th. That when water is found in the lungs, it enters during the exertions of the animal to inspire, and not after life is extinct; otherwise, after the body has lain some time immersed, we should find the lungs fully distended, which is contrary to observations, for it often happens that no water can be discovered in the lungs of drowned animals. 5th. That on opening the head, the veins appear rather distended, but without the least appearance of extravasation.

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* FODERE thinks, with FRANK and COLLEMAN, that our exertions should be continued six hours.

Dr. JOHN OSWALD, in his inaugural dissertation on suspended animation, published in this city, in 1802, after having performed a great number of experiments, varied in every possible manner, upon some of the inferior animals, comes to the following conclusions. That when an animal is drowned, and allowed to remain under water a short time after all signs of life have ceased, the lungs are in some cases very little collapsed, and in others about half so. That the air found in the lungs never yielded the least proportion of oxygen gas, but proved fatal, in eight minutes and ten seconds, to a kitten, forced to inspire it under a glass bell. That the lungs contain from one to three ounces of a yellowish frothy fluid, found to be water mixed with the natural mucus of those organs. That the vessels of the brain contain a quantity of extremely black blood, but no extravasation is perceived. That in consequence of respiration being cut off, the blood is deprived of its natural red colour. That animals submersed in a high temperature die much sooner than those in a lower one, which accords with an experiment made upon the same subject by Dr. CRAWFORD, and to be found in his work upon animal heat.

But, continues Dr. OSWALD, when an animal is submersed, and taken out before life is extinct, and allowed to breathe from three to five minutes, not a drop of water is found in the lungs, and the stomach contains more or less water. When an animal is killed before putting it into the water, done by tying the trachea, the Doctor found, after the kittens had remained two minutes under water, that the lungs contained a considerable quantity of the fluid. Dr. OSWALD repeated the above experiments, making use of mercury instead of a solution of sulphate of iron, and found the results to correspond. Dr. O. injected two ounces of the solution into the lungs of two animals, one by the mouth, and the other through an incision made in the trachea. The animals laboured under great difficulty of breathing, convulsive action in the trachea, and considerable distress, but they were both almost recovered at the end of twelve hours, when they were killed, and a large portion of the fluid found in the lungs, as proved by the tests.

Dr. S. JACKSON, in his inaugural dissertation on suspended animation, published in this city in 1808, inclines to the opinion that water enters the lungs during the efforts of the animal to inspire, and thinks that the experiments of BERGER decide this contested fact.

In the thirty-sixth volume of the Dictionnaire des Sciences Medicales, article Noyés, by FODERE, I find that WEPFER, CONRAD, BECKER, SENAC, LITTRE, and PETIT, conclude, from their observations, that not a drop of water enters the lungs of drowned persons, and that the two last found the lungs distended with air.

Opposed to the above, are MORGAGNI, EVERS, LOUIS, GOODWIN, M. BERGER, DE HAEN, RŒDERER, and FODERE, who conclude, from their experiments, that water enters the lungs during the exertions of the animal to inspire.

FODERE, although of the opinion that when water does enter the lungs, it is in the efforts of inspiration, yet, from his manner of expressing himself, it is evident that it was not always the case, and the same opinion was entertained by Dr. FOTHERGILL many years previously.

EVERS and many others conclude, from their experiments, that not a drop of water enters the lungs of those animals thrown into that fluid after their death.

In the Bulletin des Sciences Medicales, No. 3, there is a notice of the report of MM. Begin, Ribes, and Emery, upon the mémoire sur l'absorption pulmonaire, par M. Piollet.

M. Piollet always found in the lungs of those animals that he had drowned, from two to four ounces of the fluid in which they had been immersed. He also concluded, from his experiments, that when a drowned person or animal is resuscitated, that the water which had been in the lungs was removed by absorption.

In the second volume of Medical Jurisprudence, by Dr. J. A. Paris and James M. Fonblanque, Esq. art. "suffocation by drowning," is the following paragraph, which gives an accurate account of the phenomena of drowning. "If a small animal be immersed in water, contained in a transparent glass vessel, the phenomena of drowning are readily discernible; there is first a deep expiration, by which bubbles of air are expelled from the lungs; there is then an effort to inspire, but the effort is ineffectual; there being no air which can be received into the lungs, and a spasm of the muscles of the glottis seems to forbid the admission of any considerable quantity of water into the trachea. The attempts to breathe are repeated several times, and at each attempt at expiration, a small proportion of air is expelled from the mouth and nostrils, until the air cells of the lungs are almost emptied; then the animal becomes insensible, and convulsive action of the voluntary muscles mark the instant when the brain begins to suffer from the influx of the dark coloured venous blood. After the cessation of these convulsive actions, the animal becomes motionless, and gives no sign of life; but if the hand be applied to the thorax, the actions of the heart, gradually becoming fainter and fainter, indicate that some remains of vitality still linger in the system. Before the circulation of the blood altogether ceases, the muscles of respiration once more resume their actions, and ineffectual efforts are made to breathe."

Being unable to arrive at any positive conclusion on this subject, and desirous of satisfying myself, I instituted the following experiments, assisted by my friend, Dr. J. Kitchen.

The two first experiments, "tying the trachea of one cat, and drowning another," were performed with a view of observing the appearance of the different organs, and thereby enabling us more correctly to compare them with the succeeding.

Experiment 3. A full grown cat was immersed in a strong solution of sulphate of iron; it was allowed to remain there one minute after the last gasp. The thorax was now opened, and the right cavities of the heart found, as was the case in all our experiments, very much distended, the left containing a much smaller quantity of blood; generally in one minute after the heart was exposed to the action of the atmospheric air, the right cavities, particularly the auricle, commenced contracting, which continued several hours. The lungs were moderately distended, very minutely injected on their external surface, and, when cut open, a large quantity of blood and water mixed with mucus flowed from them. This fluid was tested in a variety of ways, with the prussiate of potash, without exhibiting any sign of the presence of the solution of iron. The stomach was enormously distended with food, and contained very little fluid, which, however, being tested with the prussiate of potash, was seen to consist of the solution of sulphate of iron.

Experiment 4. A half grown cat was immersed in the same solution, where it remained two minutes, and being taken out it commenced breathing, and in one minute, the respiration being tolerably free, a cord was tied around its neck, and in two minutes all signs of life had ceased. On opening the thorax, the lungs were seen to be collapsed, and presenting on the surface a nearly natural colour. The root of the lungs being tied, they were taken out and washed in clean water; they were now cut open, and found to contain a small quantity of blood, with very little mucus. This fluid, being tested in the same manner as in the preceding experiment, did not undergo the least alteration. The stomach contained about one ounce of fluid, which the test proved to consist of the solution.

Dr. Jackson assisted Dr. Kitchen and myself in the two following experiments.

Experiment 5. A half grown cat was put in the above solution, and allowed to remain two minutes; when taken out, it gasped several times before the signs of life became extinct. The trachea was laid open, and tested with the prussiate of potash, but not the least sign of iron was exhibited. The lungs were tested, and with the same result. The stomach contained about one ounce of fluid, which immediately changed its colour upon the addition of the test.

Experiment 6. This cat was drowned completely in five minutes. The trachea was tested; no signs of the solution present. The lungs were found collapsed, of a nearly natural colour, did not contain as much blood as in the preceding cases, and there was very little mucus; the fluid tested, but not the slightest change. The stomach as usual contained some of the solution.

Experiment 7. A kitten was drowned, and allowed to remain twenty-five minutes under water. When taken out, the trachea was exposed, and to the internal surface was applied several drops of the prussiate of potash, without producing any change. The lungs were considerably distended, and, when cut into, were found to contain a considerable quantity of blood and water, with very little mucus. The same test was added to this fluid, which had been placed upon several pieces of white paper, without the least change being produced. The fluid contained in the stomach immediately underwent a change in its colour upon the addition of the test.

Experiment 8. A half grown cat was drowned in common water; it was remarked that its struggles were not so violent as in the preceding cases, and that in less than two minutes all signs of life were extinct, whereas, in most of the others, from three to four minutes and a half elapsed before death took place. This experiment having been performed with a view to endeavour to resuscitate, by blowing into the lungs, the trachea was laid bare, and an opening made into it. A small tube was introduced into the trachea through this opening, and we commenced inflation with a syringe, but, it being too large, I was obliged to make use of my mouth; this was continued thirty minutes, and no signs of returning life appearing, the thorax was opened, and the lungs found partially collapsed, of a dull white colour externally, and, when cut open, the quantity of blood was found to be not so great as in the preceding experiments, and of a bright vermillion colour. The contractions of the ventricles, which were not seen before, at least, the left, the right having in some of the above cases contracted very faintly and for a short time, were very regular, and about ninety in a minute. The blood contained in the heart was of a bright red colour. Although we did not succeed in restoring respiration, the effects produced were sufficiently great to induce us to believe, that with the conjunction of other means, heat, friction, &c. the result might have been different. The change in the colour of the blood in the heart and lungs sufficiently proves that the atmospheric air, when blown into the lungs of a drowned animal, exercises the same influence on the blood as when it enters in the natural way in living animals. A physician of this city informed me a short time since, that he had several times endeavoured to inflate the lungs of dead subjects in the manner just described, and could not succeed, the air passing upwards and out of the mouth and nostrils, instead of getting into the lungs. While performing the above experiment, Dr. KITCHEN and myself both remarked the very great facility of inflating the lungs through the opening of the trachea, the air passing into those organs without any exertion being necessary on our part to prevent its escape upwards. There was also no occasion of making any pressure on the thorax to expel the air which had been forced in, as it escaped through the tube in the trachea as soon as the pressure, which was made on the tube to prevent the too sudden escape of the air, was removed.

Experiment 9. A half grown cat was immersed in the same water as the preceding, and kept there three minutes and a half, when all signs of life had ceased. Before this cat was drowned, it succeeded in getting its head five or six times above the surface of the water, and making several free inspirations. An opening was made in the trachea, as in the preceding case, and air forced into the lungs by means of the syringe; during the inflation a very large quantity of water mixed with mucus escaped from the lungs through the opening in the trachea. As we could not produce as perfect an artificial respiration as in the last case, it was not thought necessary to prolong our exertions beyond eight or ten minutes, at the expiration of which time the thorax was opened, and the lungs found considerably distended, very minutely injected externally, and, when cut open, there was still a large quantity of frothy fluid and black blood. This cat having been drowned in water without any of the sulphate of iron, in solution, it was impossible to detect the presence of any water in that manner, but I do not think there can be any doubt that the water entered the lungs during the exertions of the animal to respire. Several other experiments were performed in the same manner as the third and some of the succeeding cases, and with similar results. Observing the distention of the lungs, the quantity of fluid contained in those organs, and not being able to detect the presence of iron by the re-agent, I became dissatisfied with that manner of experimenting, and determined to drown the animals in some coloured fluid, as offering a greater chance of coming to some positive conclusion. I accordingly made a large quantity of very black ink, and mixed it with the solution of sulphate of iron. There was observed an immense number of very minute black grains in the solution, which Dr. Kitchen and myself thought might possibly assist in enabling us to speak more positively as to the result.

Experiment 10. A half grown cat was drowned in the above solution. Although it did not once get its head to the surface, between four and five minutes elapsed before all signs of life were extinct, when it was immediately taken out. The thorax being opened, the lungs were seen enormously distended, of a very dark colour, arising from the quantity of blood in the small vessels. In several places in both lungs, particularly the lower lobes, we observed a very dark colour, which appeared to proceed from some of the ink contained within; being cut open, they were found full of the ink, and our supposition about the minute grains was realized, for on passing the scalpel over the cut surface, it was covered with them, which afforded a proof so conclusive that the most sceptical person would have been compelled to abandon his opinion to the evidence of his organs of sight and touch. The trachea was, when opened, found covered over with the same black grains; the stomach presented a black colour externally, and was full of the ink.

Experiment 11. A half grown cat was immersed in the same solution, and between six and seven minutes elapsed before respiration had entirely ceased, when it was taken out, and the thorax opened. The lungs were as much distended as possible, and with the exception of two spots presented a black appearance, caused by the ink, which escaped in great abundance when those organs were cut open. On the internal surface of the trachea were found a great number of the small grains, which were also discovered in the lungs. The stomach was full of the solution. The lungs of this cat were shown to several physicians, who were perfectly convinced of the presence of the ink and the small grains in the lungs.

Experiment 12. A half grown cat was plunged into the ink, and there allowed to remain two minutes, when it was taken out; the respiration being weak, I waited until it was perfectly re-established, and then tied a cord around its neck; when dead, I opened the thorax, and found that not a drop of the ink had entered the lungs or trachea, they being in every respect of a natural colour.

Experiment 13. A cat was treated in precisely the same manner as the above, with similar results. In the stomach of each was found about two ounces of the fluid.

Experiment 14. A large cat was killed by tying a cord around its neck; three minutes after death, the cat was immersed in the ink, where it remained seven minutes. The trachea and lungs were found upon examination not to contain one drop of the fluid. The stomach was not examined.

Experiment 15. I tied the trachea of a cat, and, when dead, the ligature being removed, it was immersed in the ink, where it remained fourteen minutes. The trachea, lungs, and stomach, were examined, and not a drop of the ink found in either of them.

Experiment 16. I tied a cord around the neck of a cat, and, five minutes after death, it was immersed in the ink. To keep the mouth open, I placed a small nail between the jaws, and, in order to have the head higher than the rest of the body, pressure was made upon the lower part of the abdomen with a stick, by which means a quantity of air and mucus was forced from the lungs, and escaped by the mouth. After the cat had remained twenty minutes in the ink, it was taken out, and the lungs and stomach examined. The lungs contained a considerable quantity of the ink, and were very much engorged with blood; the stomach contained none of the fluid. As in several of the preceding experiments, one of which was performed in precisely the same manner as this, not a drop of fluid was found in the lungs, we must conclude that the pressure made upon the abdomen, and indirectly upon the lungs, thereby forcing out the air and mucus from those organs at the same time, allowed the fluid to enter into their air cells. It is not impossible that the mouth, being kept open by the nail, might have contributed to the entrance of the fluid.

Experiment 17. A cord was tied around the neck of a cat, and five minutes after death it was immersed in the ink, where it remained twelve minutes. The lungs and stomach on examination were found not to contain one drop of the fluid. The lungs in this case were collapsed, containing very little mucus, and much less blood, than had been generally observed in the preceding experiments.

Experiment 18. Another cat was treated in precisely the same manner, and with similar results. The lungs contained much more blood and mucus than in the last case.

Experiment 19. A cord was tied around the neck of a full grown cat, and when the respiration appeared to be almost stopped, the cord was taken off; the cat, breathing irregularly and weakly, was now put into the ink, where it remained until all signs of life were extinct, which took place in a short time. On dissection, the lungs and stomach were distended with the solution.

From the above experiments the following conclusions are drawn.

1st. When an animal is immersed in any fluid, and taken out previous to the last efforts of respiration, none of the fluid will have entered the lungs, while in the stomach will be found one or two ounces.

2nd. When water is found in the lungs of an animal that has been immersed, it is absolutely necessary that the animal be under water when making its last efforts to breathe. By referring to the extract from PARIS and FONBLANQUE on Medical Jurisprudence, it will be seen, that previous to the cessation of the circulation of the blood, ineffectual efforts are made to breathe, in consequence of the muscles of respiration resuming their actions, which, in my opinion, is the precise time that the water enters the lungs.

3d. When an animal is killed, and then immersed for twelve or fourteen minutes, the lungs and stomach will not contain any of the fluid, unless, as in Experiment 17, pressure be made upon the abdomen, which by forcing out the air and mucus from the lungs, the fluid at the same time enters those organs.

Since writing the above, I tied a cord around the neck of a cat, and, seven minutes after death, I immersed it in the same solution, where it remained four hours. On examining the lungs and stomach, not a drop of the ink was observed in either organ.

As might be supposed a priori, the best authors are found to differ very greatly in their opinions concerning the proximate cause of death in cases of drowning. The different theories on this subject being accurately mentioned by Dr. **Fothergill** in his work before alluded to, I shall take the liberty to notice them in a cursory manner, referring those, who may desire to see them in detail, to his publication. The introduction of water into the windpipe has been considered the immediate cause of death in cases of drowning, by M. **Louis**, **De Haen**, and others; but later experiments have shown that the same quantity of water that enters the lungs in drowning may be injected into those organs without proving fatal. It has by others, among whom may be mentioned M. **Littre**, **Wepfer**, **Boerhaave**, **Cullen**, and **Kite**, been attributed to a surcharge of blood in the vessels of the brain, producing a real apoplexy. The experiment of professor **Monro**, "making an opening in the trachea of a dog, and suspending him by a cord placed above the opening, in which state he remained three quarters of an hour, the respiration and circulation going on naturally; the cord being placed below the opening, the dog died in a few minutes," is of itself a sufficient answer to this theory. Another proof of its incorrectness is, that in apoplexy life continues several hours, while in drowning it becomes extinct in a few minutes. Others have imagined the presence of black blood in the left side of the heart to be the proximate cause of death in drowning. As the blood in all parts of the body, in these cases, is found to be black, the proximate cause may with equal propriety be attributed to its presence in any other important organ of the body.

Coleman thought the proximate cause was a mechanical obstruction in the interior pulmonary vessels from collapse of the lungs, with a want of latent heat in the blood. Experiments have shown that the latent heat of the body, after death from drowning, frequently exceeds that in a state of health. Recoveries have taken place spontaneously, after a body has been taken out of the water, without any signs of life being present. The lungs are also found to contain more or less air after death from drowning.

It follows, therefore, that this theory does not stand upon a surer basis than the preceding. Others imagine the proximate cause to consist in the mere stoppage of respiration. This opinion, however, does not appear to be more correct than the preceding; for if it were the case, how can we account for the frequent recoveries of persons in a state of syncope, or apparent death from other causes.

That eminent anatomist and physiologist, Bichat, in his *récherches physiologiques sur la vie et la mort*, concludes from his experiments that the action of black blood on the brain is the proximate cause of death in drowned persons, as well as in several other kinds of sudden death. He says, p. 283, Le sang noir est sans doute funeste au cerveau qu'il frappe d'atonie par son contact, de la même manière que les différens fluides dont je viens de parler. "By the different fluids, he alludes to ink, oil, wine, water coloured with common blue, urine, bile, &c. which he injected into the carotids, and which produced death by their action on the brain." Quelle est cette manière? je ne la rechercherai point: là commenceroient les conjectures; elles sont toujours le terme où je m'arrête. Speaking of the experiment of Hook, by which the weakened movements of the heart in those labouring under asphyxia, or in animals whose thorax had been opened, were accelerated by forcing air into the trachea, Bichat says, p. 308, Je ne crois pas que jamais on soit venu à bout de ressusciter par ce moyen les mouvemens du cœur, une fois qu'ils sont anéantis par le contact du sang noir. That the presence of black blood in the brain, and its action on that important organ, may be the proximate cause of death, as asserted by Bichat, is very probable; but is it not possible that he has gone rather too far, in believing that as soon as the movements of the heart have been destroyed by the contact of the black blood, all exertions to restore those movements will be unavailing.

Opposed to the belief of Bichat on this subject, stand the numerous well authenticated instances of resuscitation, where the body had remained some time under water, as well as the case mentioned at the conclusion of this paper, the body having been under water at least five minutes, and certainly long enough to allow the black blood to exercise its full influence upon the brain and heart. Before proceeding to the consideration of the most proper remedies to be resorted to in cases of asphyxia from drowning, it may not be amiss to mention that the popular method of rolling the body, either on the ground or over a barrel, is the surest manner of completely extinguishing the least spark of life that may chance to exist. Dr. Jackson mentions in his thesis a case of suspended animation, which occurred near this city, in which this practice was the destruction of the individual. "It was a woman who had sunk but for a few moments, and exhibited manifest symptoms of life when taken out, but which entirely disappeared, by rolling her on the gravelly bank." Another case is mentioned by the Doctor, where the woman, being thought dead, was allowed to lie on the shore, and recovered.

When the body is taken out of the water, the first thing to be done is to remove as quickly as possible all the clothes, and then place it in some warm situation, if in the summer exposed to the rays of the sun, or in a bed well provided with blankets, and having bottles, filled with hot water or ashes, applied to all parts of the system, more especially to the extremities, where animal heat is soonest dissipated. Head and breast to be a little elevated. Several persons must now commence rubbing the body and extremities with their bare hands; and stimulating substances, as mustard or Cayenne pepper, may be employed by those rubbing, more effectually to restore the vital heat, especially on the back and posterior part of the head and side of the neck. At the same time that the frictions are unceasingly employed, it is absolutely necessary for the physician to endeavour to restore the respiration, to accomplish which several methods have been proposed and adopted.

Bellows of different kinds have been invented for the express purpose of forcing air into the lungs, but as they are not always at hand, a common pair will be found to answer every intention. The nozel of the bellows is to be placed in the mouth, with both nostrils closed, or in one of the nostrils, the other and the mouth being closed. Air is now to be gently forced into the lungs, after which pressure must be made on the thorax, in order to expel the air that had been made to enter those organs; this being repeated twenty or thirty times in a minute, artificial respiration is produced. Some prefer introducing a tube into the trachea, either through the mouth or one of the nostrils, and then applying the nozel of the bellows to one extremity of the tube, to proceed as above. When neither of the above instruments is at hand, we can force air into the lungs by applying our mouth to the mouth or one of the nostrils of the patient, and proceeding as above. Many persons are of the opinion that air, having passed through the lungs of a man, and undergone the known changes, is less adapted to re-excite the respiration of a drowned person, than common atmospheric air; but Fodere, the author of the article Noyés, in the Dictionnaire des Sciences Medicales, maintains a different opinion, and says, " et je suis persuadé que ce procédé qui est une sorte d'incubation, qui reunit les deux avantages, de la chaleur, et de l'introduction de l'air dans les poumons, est celui qui a rappelé le plus d'asphyxiés à la vie."

It sometimes happens that we cannot succeed in forcing air into the lungs by either of the above methods, and we must then resort to the operation of laryngotomy, which, in my opinion, should supersede all the plans as yet noticed. On this subject, I transcribe with great pleasure the following lines from Fodere. " La difficulté et quelquefois l'impossibilité de faire penetrer l'air par les voies ordinaires, ont fait naitre l'idee de recourir à l'incision de la trachée artère ou du larynx. Heister (Instit. Chir. cap. 2,) a fortement recommandé cette opération, et déja avant lui, Detharding avait conseillé la laryngotomie comme un moyen de rendre libre l'entrée et la sortie de l'air dans les poumons des noyés, et de les rappeler de la mort comme par miracle (de modo subveniendi submersis per laryngotomiam, Rostock, 1714.) On lit dans le mémoire de Fothergill, ainsi que dans l'ancien journal de médicine (Mars 1790) quelques faits en faveur de cette pratique, &c."

Electricity and galvanism have both been highly recommended as powerful means, in conjunction with the others, to restore the vital action. The number of authorities, in support of these remedies, is so great, and their action on the system is of such a nature, that they would be entitled to great attention among the remedies employed in asphyxia, was it not known that not once in a thousand cases would they be in readiness, and the time lost in hunting after an electrical machine would be much better employed in making use of the remedies in our hands.

Instruments of different kinds have been invented, for the purpose of drawing off the water from the lungs. They have generally been made in the form of bellows or syringes, and have by some been considered of great use in the general plan of treatment. It will be recollected, that in my exertions to restore the respiration in one of the drowned cats by means of a common syringe, a great quantity of the water contained in the lungs was brought away when the piston of the syringe was drawn back.

Injections of tobacco smoke have been considered by some of the most illustrious members of our profession, a very important assistant to frictions and inflation of the lungs. The Humane Society of Amsterdam for the recovery of drowned persons, mentioning in their memoirs the advantages derived from injecting air into the anus, says, "et l'opération sera plus efficace si, au lieu d'air, c'est la fumée chaude et irritante du tabac; c'est, en général, la premiére qu'il faut tenter."[*] From all that I have learned on the subject of tobacco injections, I do not hesitate to recommend its use as soon as possible in all cases of asphyxia from drowning. One of the easiest ways of employing it is to take a common pipe, and. filling the bowl with tobacco, light it, put a piece of paper or rag perforated with small holes over the bowl, and then pass the stem of the pipe up the rectum, and commence forcing the smoke up the intestines by applying your mouth over the perforated rag or paper, and blowing forcibly.

Venæsection has been employed as a means of resuscitation; it is, however, always injurious when resorted to before there are signs of returning life, and even then it must be used with the greatest caution, both as regards the quantity drawn, and the manner of doing it, which is best done by allowing a half ounce or an ounce to flow from the vein, then apply your fingers to the orifice until the arterial system gives manifest signs of the necessity of repeating it. I cannot, perhaps, do better than transcribe the caution of FODERE on this part of the treatment. "Attachons-nous donc à ce premier point, (re-establishing the respiration,) et après avoir bien commencé, prenons garde de mal finir en voulant *trop faire.*"

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[*] Several physicians of eminence recommend tobacco smoke to be applied to the interior of the mouth and nostrils from time to time, and STOLL advises us to blow it into the lungs mixed with common air.

In the 117th number of the Journal Universel des Sciences Medicales, there is a notice of the experiments of Dr. CARRARO, upon acupuncturation as an almost infallible means, "as the Doctor leads us to suppose," of resuscitating drowned animals. On the twentieth of April, 1825, the Doctor, in presence of several persons worthy of credit, plunged a kitten, eight days old, into cold water, where it remained until all signs of life had ceased. Being withdrawn, and in a short time again put into the water, the kitten sunk to the bottom. It was a second time withdrawn, exposed to the sun, wiped with warm cloths, and frictions employed over the abdomen. The Doctor, not finding these means to succeed in resuscitating the animal, had recourse to acupuncturation of the heart, *three quarters* of an hour after the kitten had been immersed. A needle was passed through the heart, and arrested by the dorsal vertebræ. In less than five minutes, the needle was slightly agitated, announcing the action of the heart. This movement of the needle rapidly increased, and was soon followed at first by motion of the anterior extremities, respiration next commenced, and, finally, motion of the whole body completed the return of this kitten to life. It was then carried to its mother, who warmed and nourished it, and, one month afterwards, this kitten was as sprightly as ever. Two kittens, a day and a half old, underwent the same experiment; the first one was resuscitated, carried to its mother, who laid on and suffocated it; the second, twenty days after the operation, was perfectly well.

The Doctor expresses a hope that in asphyxia in human subjects from drowning, physicians will resort to acupuncturation in preference to any other method. That the above is strictly correct I will not pretend to deny, but I regret to say that some experiments, performed by Drs. JACKSON, D. T. COXE, and myself, upon the same subject, with great care, do not allow me to place any confidence in it as a means of cure. The first experiment was upon a kitten about four weeks old. It was drowned, and as soon as all signs of life were extinct, it was placed on a table, after being wiped dry, and a needle passed through the heart. In less than one minute, the needle by its movements showed us that the heart had commenced contracting; in four minutes the heart contracted forty times in a minute, which it continued to do for four or five minutes, when they became less frequent, and, in twelve minutes from the introduction of the needle, the contractions were only fifteen in a minute; at the end of fifteen minutes, the heart had ceased to contract. Experiment 2nd. A kitten was drowned; two minutes after it was taken out of the water, a needle was passed through the heart, and, in less than two minutes, the heart commenced contracting. As in the first experiment, the contractions became more vigorous for ten minutes, then began to decrease, and, at the end of fifteen minutes, the contractions had ceased. Dr. D. T. Coxe performed three experiments, and as I was unable to be present, he has favoured me with the following details. Experiment 1st. A kitten was drowned, taken out, rubbed perfectly dry, placed in the sun, and in half an hour a needle was inserted, as was supposed, into the heart. At the end of four minutes, a slight motion was thought to be perceptible in the needle, which was repeated two or three times. A second needle was introduced, without producing any contraction. The kitten was dissected some time after the experiment, the needles remaining in the body, when it was seen that they had not entered the heart. This, therefore, proving nothing, the Doctor proceeded to the second experiment.—A kitten four weeks old was drowned, well dried, and in eleven minutes a needle was passed through the heart. A second was a short time afterwards inserted, but neither produced the slightest contraction. Experiment 3d. Another kitten of the same age was treated in the same manner, and with precisely the same result. It was fully proved, upon dissection, that the needles had passed through the heart. Whatever others may think of the possibility of resuscitating drowned persons by acupuncturation, I can only say that I should think myself highly culpable, if, called to a case of asphyxia, I were to waste time, every moment of which is precious, in endeavouring to resuscitate by a means which I sincerely believe to be good for nothing.

While pursuing the above remedies with coolness and very great perseverance, it will be of advantage to endeavour to excite irritation on the internal surface of the nostrils, mouth, pharynx, œsophagus, and stomach, either by tickling them with the extremity of a feather, or by applying to them volatile substances, as volatile alkali or some of its preparations, oil of turpentine, ginger, Cayenne pepper, &c.; if we have a stomach tube at hand, we may with advantage inject some of the above articles into the stomach. I cannot refrain from adding the following lines from Fodere, which are applicable to all accidents: "Mais il faut du choix dans ces moyens du secours, et de la sagacité dans leur administration; il faut sur tout se tenir en garde contre le trouble et la confusion, si ordinaires, et cependant d'un si grand danger dans ces circonstances."

In concluding this part of the subject, I have only to add, that if, after having continued our exertions for three, four, five, or even six hours, we are so fortunate as to restore a fellow being to life, it then becomes necessary to administer some nourishing and stimulating food, at short and repeated intervals; and, for this purpose, we can have nothing better than sago, tapioca, arrow-root, wine, brandy, or any other liquor mixed with hot water, after which the patient may be put to bed, and there allowed to recruit his exhausted frame by that great restorative, sleep.

Having given as correct an account of the best treatment to be pursued in asphyxia from drowning, as laid in my power, I will conclude by reporting a case that occurred to myself, when on a visit to a relation residing on the North River, in the month of August, 1820. As this case occurred before I had regularly commenced the study of medicine, (I had attended Dr. Physick's lectures on anatomy the winter previous, though undetermined whether I should pursue the study,) it will, I think, be more acceptable; for if I, unacquainted with the treatment, could, by perseverance, succeed in resuscitating a drowned person, how much greater would be the chance of success to one having a perfect knowledge of what was most proper to be done. A black child, aged eighteen months, accidentally fell into a cistern containing water eight feet deep, where it remained upwards of five minutes, before we succeeded in dragging it out by means of a hook fastened to a long pole. When we had got the child out,* the first thing done was to strip off all its clothes as quickly as possible. The sun being very powerful, the child was exposed to its rays in preference to taking it into a warm room. The mother, "the only person for some time present to assist me," was ordered to rub as violently as possible over the whole body, while I looked over the article "*Drowning*" in the Encyclopædia, which fortunately happened to be in the house, and from which I collected all the information which I was so suddenly called upon to put in practice. The frictions with Cayenne pepper and mustard were continued as vigorously as possible, and principally by myself, as the mother was more inclined to let things take their natural course, than exert herself as I had ordered. A bucket of boiling water was next procured, and in it I placed the child almost to the umbilicus, continuing the frictions at the same time. I now endeavoured to restore the respiration, by making one of the persons present (several had by this time arrived,) blow into one of the nostrils, while I closed the mouth and the other nostril. Not satisfied with the frictions and boiling water combined, I ordered some hot ashes from the kitchen fire, which were sprinkled over the whole body, and in several places the skin was rubbed off, but this did not prevent the renewal of the boiling water and frictions. This severe treatment may be considered unnecessary by some, but it must be recollected that I was treading upon new ground; and so important do I consider this part of the treatment, that were I called upon again, I would pursue precisely the same apparently severe remedy. Several cigars were broken up on a plate, live coals added, and the smoke held under the mouth and nostrils, and from time to time these parts were opened, and the smoke blown into them.

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* The body was cold, the stomach much swollen, and no pulsation could be felt in any part of the system.

These four remedies, frictions, heat applied to the surface with a view to restore the excitability of the system, blowing into the lungs, and applying tobacco smoke to the inside of the mouth and nostrils, were unceasingly persevered in for one hour and a quarter before I had the satisfaction to perceive the slightest sign of returning animation; about this time, a faint guggling noise was heard in the throat, caused by an imperfect attempt to inspire. A few minutes elapsed before it was repeated, but our exertions were redoubled, and we again heard the joyful sound, which from this moment continued to increase until the child cried out, and respiration was perfectly re-established. Placing my hand upon the region of the heart, I distinguished the faint pulsations of that organ, which continued to increase, and, in a short time, I felt the pulsation of the radial artery. The child being now able to swallow, I gave, at short intervals, a small quantity of hot wine and water, and brandy and water. Three hours after commencing my exertions to resuscitate this child, I had him put to bed, having previously given him some warm soup. He slept well that night, and was the next day as well as ever.

ANALYTICAL REVIEWS.

Article VII.—*Traité zoologique et physiologique sur les vers intestinaux de l'homme.* Par M. Bremser, D. M. Traduit de l'Allemande par M. Grundler, D. M. P. Revu et augmenté de notes par M. De Blainville, D. M., &c. Avec un atlas. Paris, 1824.

Anatomie des ver sintestinaux, ascaride lombricoïde et échinorhynque geant. Memoire couronné par l'Academie Royale des Sciences; qui en avait mít le sujet au concours pour l'année 1818. *Avec* 8 *planches.* Par Jules Cloquet, &c. &c. A Paris, 1824.

The first of the above works, though unquestionably possessing the highest worth and authority, is certainly one of the most strangely got up that has ever come under our notice. The book has so many authors, that it is almost as difficult to find whom to quote as the authority for some of the facts which it contains, as to refer to their right owners the works ascribed to Hippocrates or Aristotle, or the labours of Hercules. First, a treatise on worms was written, in German, by professor Bremser; next, after one abortive attempt, it was translated into French by M. Grundler; then it was revised, amended in many parts, changed in its arrangement, and augmented with an appendix, by M. De Blainville; again, the classification of the worms was altered, with the consent of the author, so as to adapt it to the more improved system of Rudolphi; and, subsequently, a number of notes were communicated, for insertion, by the original author. To crown the whole, various suggestions, and a recommendatory letter, were contributed by the famous Baron Humboldt. We might, perhaps, be thus justified in entitling it, according to the English and American fashion, Bremser's, Blainville's, Humboldt's, Rudolphi's, Grundler's—Bremser.

With such a list of names, it certainly ought to be a profound work. It is considered by MM. Humboldt and De Blainville as one of the very first authority. Dr. Bremser is stated by the latter to be the first *helminthologist* in the world. To enable the reader to judge of his opportunities, it is sufficient to state, that the museum at Vienna contains the finest collection of parasitical worms in existence; *fifty thousand animals* were there opened, to search for these objects, and every worm found in them passed several times through the hands of the indefatigable author himself. In addition to this, he has had a large practice in treating persons affected with these animals. Every thing thus conspired to make the present publication the most promising source of information likely soon to occur on this interesting and curious subject.

Our learned author, with all the weight of character afforded by these advantages, the accumulation of the study and toil of many years, has, notwithstanding, emitted some opinions, the statement of which, among our countrymen, will, we are sure, produce a smile. Dr. GRUNDLER, the translator, complains, in his modest "note," of the difficulty of conveying the philosophy of the Germans, as given by M. BREMSER, in such clear language as is required, he tells us, in France. We shall have occasion to revert to this as we proceed in our analysis.

Enumeration of the worms which inhabit man.—We will first describe the worms which are admitted by our author as being found in the human *intestines*. These are five in number, and they belong to as many different genera; viz. *trichocephalus*, *oxyuris*, *ascaris*, *bothriocephalus*, and *tœnia*.

The *trichocephalus dispar* of our author, and of M. RUDOLPHI, is the animal which has been called "trichiuris," "trichocephalus hominis," and "the long thread worm of Dr. BRADLEY." It is commonly from an inch and a half to two inches in length; having the anterior two-thirds of the body thin, resembling a hair, and the rest much thicker. It is either white, or coloured by the substances it has swallowed. The sexes are in different individuals. The female is smaller, and has the posterior and larger portion nearly straight. The male has the same part in a slight degree spirally twisted. The male possesses an exciting organ or penis, which protrudes from the larger extremity. The mouth is at the capillary end, which is always found adhering to the intestine. Hence etymologists will perceive the justice of substituting the name trichocephalus for that of trichiuris.

This animal is found in the large intestines; and most commonly in the cœcum, which seems to be its natural locality. Frequently but a single individual exists there; and, in almost every instance, a very small number. M. Rudolphi, in one case, met with upwards of a thousand. Uncommon as specimens of this animal are in our collections, M. Bremser finds them in almost every body he examines.

Morgagni has described this worm; but, like some other productions of the same mine, it was forgotten, until re-discovered by Rœderer and Wagler, in their famous mucous fever of Gottingen, so much quoted and alluded to by the pupils of Broussais.

The *oxyuris vermicularis* of Bremser is the "ascaris vermicularis" of our common writers, and of Rudolphi himself. It is very common, in our country, to hear this species called "ascarides," the speaker forgetting that the great lumbricoid worm is also an ascaris.

It would seem, as our author very reasonably remarks, of but little use to describe so well known and familiar an animal; and yet it appears that even the larvæ of common flies, and detached joints of tænia, have been mistaken for it. It is from a line to a line and a half long, white, extremely slender, elastic, blunt at the anterior end, and with a round mouth, with the exciting organ of the male in a sheath, and, when of the female sex, increased in length to four or five lines. The four last characters distinguish it from the genus ascaris.

It is found, as is well known, in the large intestines, and particularly in the rectum of children.

The *ascaris lumbricoides* is too familiar to require us to occupy space with it. The male is smaller than the female, (but not so disproportionately so as in the last genus,) and has the end of the tail slightly curved, and frequently a double penis or exciting organ protruding from it.

Dr. Bremser relates an incident in order to show the necessity of studying these animals. Some children had cut an ascaris open, and the intestines and oviducts protruded from the wound. These were mistaken by the attending physician for young ascarides and a small tænia; and the practitioner continued in his error, until Goeze set him right, to his no small mortification.

The *bothriocephalus latus* is the "broad tape worm with central or umbilical orifices," and the "tænia lata" of our books. It is thinner, and generally wider (not narrower, as some have said,) than the common tænia. It is often twenty feet long.

It is found in the small intestines of the human species, in Poland, Russia, Switzerland, and some parts of France; while the common *tænia solium* is only found in countries devoid of this animal. It is of a white colour, not, however, perfectly clear; and becomes grayish in spirits of wine. It has a large head, with two lateral grooves. RUDOLPHI considers these last as the organs for the absorption of nourishment. M. BREMSER refers this function to a mouth, which he believes to be placed in the middle of the anterior extremity, between the grooves. He does not, however, speak positively of having seen this mouth in specimens extracted from the human subject; and the figure to which he refers us for a trace of it, affords no such trace at all. In an analogous species, obtained from the pleurenectes maximus, this mouth can be seen; while in those of the shark and ray, (considered by M. CUVIER as a distinct genus, and termed *floriceps*,) there are four large, lateral suckers, with tubular cavities. It is, at best, extremely uncertain whether any of these parts be really mouths, or organs of absorption; or whether they are only *suckers*, organs of adhesion. In fact, no digestive cavity is pointed out in the tænia or bothriocephalus, with reasons justifying the least degree of confidence, any more than in the echinorhynchus, of which we have to speak, in a subsequent part of this review.

Finally, the *tænia solium* retains, in the hands of our author, its usual name. This is the "common tape worm, with lateral orifices" and long joints. It is white, with the posterior extremity or tail rounded, and with the anterior portion long and slender, terminating in an extremely thin and narrow neck, and a minute head, armed with four suckers. Between these can sometimes be discovered a minute mouth; in some instances surrounded by a circle of fine hooks, in others not visibly provided with them. The office of these hooks may be conjectured from what we have yet to say respecting an analogous organ in the echinorhynchus. The joints which separate from the larger and posterior end of this tænia, and which have been called "vermes cucurbitani," are said by our author to be, in every natural instance, charged with fecundated eggs. This he considers a natural process. Several tæniæ are not unfrequently found in the same individual. Our author considers it "difficult to imagine" that this worm and the tænia lata or bothriocephalu[illegible]an exist in one person's intestines at the same time.

M. Bremser believes that the tænia is formed, in the first instance, entire, and that it does not grow by the addition of joints to its posterior end, as is commonly believed; although he inclines to think that new segments are divided off from the posterior part of the neck. He quotes Brera, who describes the manner in which a fresh articulation buds and shoots out from a suture, and displaces all below it, occasioning the entire separation of the latter portion from the body of the worm. Whether the history thus given by M. Brera be drawn from observation or conjecture, the present volume does not inform us; and the reference is made to a work of that writer, printed in German. The only work of M. Brera which is within our reach, is the "Traité des Maladies Vermineuses," as translated into French by Bartoli and Calvet, and published in 1804; and, in this, we have not been able to find such a description as that alluded to. Thus, in the present instance, as in many others, we are punished, by being deprived of the evidence respecting an alleged fact, because two physicians, unknown to us, have had a personal difference.

M. Bremser remarks, with great propriety, that the fact of the head or smaller extremity of the tænia not being discovered in the fæcal discharges of any patient, is no proof that the latter is not cured; as it is extremely easy to overlook so diminutive an object in such a medium. He recommends washing away the fæces by successive affusions of tepid water; when the fragments of tænia will be found in the bottom of the receptacle. He once discovered, by this process, a portion of the most diminutive breadth, and not exceeding an inch in length, but which, nevertheless, contained the head.

Worms of other parts of the body.—In this curious department, M. Bremser enumerates the following. *Filaria dracunculus*, the Guinea worm, on which he gives us a very interesting chapter, from which we have not space to borrow. *Hamularia subcompressa*, a thread-like worm, with two fine hooks, found by Treuttler in the enlarged bronchial glands of a consumptive patient. *Strongylus gigas*, a thread or cord-like worm, from five inches to three feet (French) in length, having a small bladder which contains the penis or exciting organ, at the tail of the male, while that of the female is round. This animal inhabits the kidneys, and, it is supposed, the muscles which surround them. It is rarely found in man, but more frequently in the dog, otter, seal, horse, ox, &c. *Distoma hepaticum*, the "liver-fluke" and "fasciola hepatica" of English authors, and which the French call "douve du foie." This is a lanceolate worm, blunt at both ends, with an orifice at the smaller extremity, and another in the abdominal part. This is found in the human subject, in the rodentia, in ruminating animals, in goats, chamois, sheep, hogs, and kangaroos; always inhabiting the liver or gall-bladder. It is from one to four-twelfths of an inch in length. *Polystoma pinguicola*, a flattish, rounded worm, about half an inch long, blunt at one end, and pointed at the other, with six orifices at the larger end, one in the abdominal parts, and one at the smaller extremity. It was found by Treuttler in the fat about the kidneys of a woman who died in child-bed.

Of *hydatids*, there are two species in the human subject, enumerated by M. Bremser. Different foreign writers vary materially in the number of kinds which they describe as inhabiting man. Thus, M. Martinet, in his Manuel de Clinique, mentions three genera as found in the brain alone; while M. Hippolyte Cloquet, in the Dictionnaire de Medecine, admits five. The carelessness with which the classification, and the notes on this subject, are drawn up, (a charge which lies against M. De Blainville,) is sufficiently obvious from his omitting the genus echinococcus in the one, and mentioning acephalocystis granulosa twice; first, as one of three species mentioned by M. Laennec, and then, in the very next page, as a fourth, added to these by M. Hippolyte Cloquet.

We possess the means of giving a systematic sketch of the hydatids which inhabit man, and had intended to do so in the present review; but we have found that the arrangements of the journal will neither allow sufficient time nor space for this object. We, therefore, abandon it for the present, and content ourselves with following our author.

Cysticercus cellulosæ is a worm always found enclosed in a cyst. When this is opened, the animal is found to consist of a roundish sac, entirely loose within the other; but provided with a head and a wrinkled neck, possessed of considerable motion. This head and neck are commonly retracted within the vesicle of the tail, whenever the animal is irritated or exposed; and nothing is then seen but a sac, enclosed within another sac, but without adhesion. The principal seat of this hydatid is the cellular membrane; but our author agrees with M. Rudolphi, in not undertaking to deny that some of those found in the viscera may be of a different species; for which has been proposed the name of *cysticercus visceralis*. *Echinococcus hominis*, by some strange means, is not described, nor its place in the classification mentioned. From the beautiful lithographs of it, however, which are given, (two of them with erroneous references,) and from a discussion of some length relative to its history and identity, we will undertake to describe it as a spherical worm, studded with minute tubercles, liable to have an internal membrane which lines its cavity separated, so as to give the erroneous idea of another individual of the same species being within it, but frequently actually containing its real offspring in its cavity, and others within them again; in one instance, as far as the fourth generation. It is sometimes found provided with a visible mouth; and this, in some instances, surrounded with a range of hook-like processes.

Our author next enumerates several *pseudo-helminthia*, or substances which have been mistaken for internal or parasitic worms. Some of these are animals inhabiting the external world; which have dropped into the receptacles of human discharges, or adhered to wounds, of their own production, in such a manner as to give rise to the impression that they issued from the body. Others have been *seeds*; viz. of strawberries, hyoscyamus and alkekengi. *Toothache worms* are mentioned as a deception, and have probably been generally seeds.

In order to give an idea of the diversity of forms assumed by the parasitic animals which inhabit the interior of others, there is no better method than to make a sketch of an improved classification of them. M. De Blainville gives us, in his notes, the choice of four or five; but as that of Rudolphi, employed in the work, is the one which possesses the highest authority on this department of knowledge, it will answer our purpose best to copy it; postponing Oken, Lamarck, Cuvier, and M. De Blainville himself.

Parasitic worms are of five descriptions; viz. 1. forming a stiff cord, pointed at both ends; 2. forming a somewhat similar cord, but furnished with a trumpet or snout, armed with successive ranges of hooks or bristles; both these having a difference of sex; 3. short, thick and rounded, with perforations in their sides; 4. riband-shaped; and, 5. vesicular: the three last tribes being all hermaphrodite. Upon these distinctions are founded the *orders* in the following arrangement.

Order 1. NEMATOIDEA. *Thread-like worms.*

Body rounded, rigid, and elastic; an intestinal canal, with a mouth and anus; having two sexes. Head blunted. The males smaller than the females. The testicles of the male, and the ovaries of the female, resembling small intestines; and terminating at an opening nearer the head than the tail.

Generally inhabit the intestines.

Genera. Filaria, (which contains the Guinea worm,) trichocephalus, oxyuris, strongylus, ascaris, and six others not found in man.

Order 2. ACANTHOCEPHALA. *Thorny-headed worms.*

Round, cord-like, hollow, wrinkled, somewhat rigid; with a snout armed with several ranges of hooks. Having two sexes.

This contains but one genus, the echinorhynchus, which is not found in man. One species, the E. *gigas*, is found in the intestines of hogs.

Order 3. TREMATODA. *Perforated worms.*

Body roundish, or flattened, soft. Pores or suckers. Hermaphrodites. Form very much diversified; very seldom any visible head; filament connected with generation protruding; one or more pores (in one genus eight) in the surface of the body.

Inhabit the intestinal canal; and also, cavities resembling hydatids, in various parts of the body.

Individuals of only two genera are found in man; viz. polystoma and distoma; to which latter belongs the "liver fluke" of the English. The pentastoma frequently inhabits the *frontal sinuses* of animals.

Order 4. CESTOIDEA. *Riband-shaped worms.*

Body long, flat; often jointed, (as in the tænia,) head seldom furnished with lips, but generally with either two or four grooves or suckers. Hermaphrodites.

There is considerable diversity of form in this order, which the author acknowledges not to be a very natural one. These animals inhabit both the intestines and the substance of the body.

The genera, *bothriocephalus* and *tænia*, species of which inhabit man, belong to this order. There are six others.

Order 5. CYSTICA. *Hydatids.*

Mere sacs; with a head, visible or invisible at different times, furnished either with two or four small grooves, with four suckers and a crown of hooks, or with four trumpet shaped tubes. Hermaphrodites. Inhabit sacs in different parts of the body.

This order contains the genus cysticercus, found in man. The echinococcus, which, as we have observed, is neither described nor classed in the text before us, obviously belongs to this order.

Two other genera are given; one of them found in the viscera of fishes, the other in the brain of sheep, oxen, and antelopes.

Origin of parasitic worms.—On glancing our eye over the list of the contents of the work, we were not a little surprised and amused to perceive a copious article, entitled "*Digression de la formation des vers intestinaux sur la formation probable de notre terre.*" This may remind the American reader of a well known history of New York, from the creation of the world to the end of the Dutch dynasty. From the formation of intestinal worms to the origin of the world, is, indeed, a leap savouring somewhat of KNICKERBOCKER. We cannot, however, refuse our readers the amusement of a sketch.

All substances, according to M. BREMSER, are divisible into three classes; viz. *mineral*, *organizable*, and *intermediate* between these last. The second class contains substances which are adapted to enter into the composition of animals and vegetables; such as carbon, hydrogen, oxygen, azote, and the peculiar vegetable and animal principles. The third and intermediate class consists of water, air, and other matters which occasionally belong to both these departments of nature.

Now Mr. B. contends that the world, being originally a chaotic mass, whether it was first formed as an independent existence, or merely separated, in a shapeless lump, from the sun, (a question which he wisely forbears to investigate,) underwent a series of consecutive changes, in which the different strata of known rocks were successively deposited, and the superincumbent mass materially altered in its chemical composition. Thus far, all is in accordance with the received doctrines of our geologists; but this is not all. These processes were *vital* as well as chemical. The world was possessed of a "living spirit," (*esprit vivant*, the term esprit bearing the various meanings of spirit, sense, wit, and temper;) and these successive changes took place for the purpose of separating to the bottom substances essentially dead, and leaving at the top those which were naturally endowed with life, and proper to form plants and animals. This took place at many different times, forming the successive depositions of rocks with which we are acquainted; and how many were necessary to form the interior parts of the earth, situated below the first granite, we shall probably never know. Our author, in another place, seems to think a similar operation necessary for the formation of the atmosphere, and gives youth as a reason why astronomers have never discerned an atmosphere in the moon. Now, it was not till after the superficial mass of the earth had been many times *defecated* by the deposition of a portion of its dead matter towards the centre, that what remained became fit for the support of vegetable and animal life. Vegetables and animals were then created, and we accordingly find their remains in the rocks of a subsequent formation. From time to time, the process was repeated; all flesh and all vegetation were destroyed from the face of the earth, a new stratum was laid down over them, and a fresh creation of organized beings took place, fitted to their newly prepared domicile.

These processes, whose actual occurrence is maintained by so many geologists, who do not dare to speculate concerning the mode in which they were executed, were, according to our author, *fermentations*. By chemical and mechanical means, they produced rocks and soils, and, vitally, they generated the animals which were to inhabit them. The "living spirit" of the world separated small portions of suitable matter, combined with them a part of its own existence, and converted the being thus formed into a living thing. We have pondered long and deeply upon the meaning of an occult phrase which occurs here, and for some time had serious fears that it would prove to be possessed of no meaning at all. We incline to believe, however, that that which, in the language of the gods, is called "a shut whole," ("un tout clos,") signifies, in the dialect of men, *an independent being!* This generation or production of new chemical masses, supplied with vegetable and animal productions suitable to inhabit them, was similar to the *fermentations* carried on in our manufacturing and culinary processes. Chemists have described, with great nicety, the changes which the saccharine, the vinous, the panary, the acetous, and the putrid fermentations produce in the composition of the substances subjected to them; they can tell us the nature of the acids which are formed, and the number of cubic inches of the different gases that escape: but they overlook the vital part of the phenomena; they forget the production of *mould* and *infusory animalcules!* The only reason why stale dough does not produce trees, and vinegar, rhinoceroses and alligators, is that the quantity of matter in fermentation is insufficient. Who can judge or limit the effects to be produced by a whole world set to "rise" like a loaf of bread? Our forests are but the mould of this mighty mass, our grassy meadows merely "the green mantle of the standing pool," and our important selves, with our horses, oxen, camels, sheep, goats, dogs, &c. as well as our friends, the lions, tigers, panthers, and bears, are but a set of large vinegar eels!

Man, says our metaphysical author, was evidently formed in a season of profound repose. And why? Because of the exact balance which exists between his physical and spiritual parts; each of them predominating, with equal frequency, by turns! They are to each other precisely as "50 to 50;" and this precision in the compound could only be obtained during a time of entire tranquillity in things.

He hangs between, in doubt to act or rest;
In doubt to deem himself a god or beast;
In doubt his mind or body to prefer;
Born but to die, and reas'ning but to err;
Created half to rise, and half to fall;
Great lord of all things, yet a prey to all;

Sole judge of truth, in endless error hurl'd;
The glory, jest, and riddle of the world.

Should that convulsion, however, which brought us upon the stage, not be the last, should a new fermentation take place, the soil be once more purified by the precipitation of an additional share of earthy particles to the substratum, and the surface be left still more highly stocked with vitality, we may have, perhaps, a race of beings, in whom spirit shall be to matter as 75 to 25; in which case, it is absolutely impossible for beings of equiponderancy, like ourselves, to conjecture to what extent arts and sciences may be carried, or whether things may not be discovered, unintelligible to us, but standing in the same relation to what we call knowledge, as our chemistry or astronomy does to the wisdom of a beaver or a spider.

Our readers will probably be of opinion that we have now given them enough of this kind of matter. We could not, however, refrain from inserting the above, as a specimen of the strange vagaries into which medical men may be led, according to the prejudices of their youth, or their natural and other peculiar habits of mind. In Vienna, no doubt, this is profound thinking. We would conjecture that it may be "*transcendental*" philosophy; at least, we are sure it transcends ours. And yet there is a strong vein of forcible and original thought in the article, which serves, like the amiable qualities of DON QUIXOTE, to preserve our interest for the tale and the hero, while, at the same time, it heightens the burlesque.

After this preparatory sketch, it will be readily inferred that the conclusion of M. BREMSER is in favour of the doctrine of equivocal or spontaneous generation. When digestion is more rapid than absorption, matter of a species suitable to become organized accumulates in the intestines in a quantity greater than the system has occasion for; it, in consequence, ferments, and produces "un tout clos." After this, however, the newly formed being propagates its species by generation, in the manner usual among animals of an analogous structure.

Our author discusses at considerable length the opinions of BRERA; who believes that ova are received from without, but cannot decide whether this takes place through the placenta during utero-gestation, from the milk of the nurse, from the surface of the body in the act of sucking, or, finally, in our food and drinks. Some of these hypotheses would imply that the eggs circulate in the fluids, as buds are said by Mrs. IBBETSON to do in plants, until they find a proper nidus, where they take root and grow.

Dr. BROUSSAIS cuts the knot very briefly, by saying that worms are produced by *inflammation!* Vide *Catechisme de la Medecine Physiologique.*

We acknowledge that we are not prepared with a positive opinion on this difficult point; but that it appears to us to be inexplicable on any known principle. There is no doubt, however, of the following facts.

Worms have been and are found, in numerous instances, in parts of the body which do not communicate externally. We have mentioned the distoma hepaticum, the filaria dracunculus, &c. Hydatids are very common in the human subject. In animals, a great variety of worms have been found so situated. Professor BREMSER quotes Mr. HOPKINSON and Dr. MORGAN for the account of a living filaria (filaria papillosa) which was seen in a horse's eye in Philadelphia.* The author then proceeds to state that himself, together with many other physicians, saw similar worms in the anterior chamber of the eye of a horse, which was produced at the veterinary school of Vienna, in 1813. Similar cases have been published more recently, as occurring, not unfrequently, at Calcutta.† Worms are found in the fœtus, and in the umbilical cord. The whole appearance and structure of these beings differ essentially from those of worms found externally to the animal body, and are adapted to their peculiar mode of life. Mr. B. states that he can always distinguish a parasitic worm at a glance. They immediately perish when exposed to cold and other external agents. The cases in which intestinal worms have been said by authors to be found in external nature, are all liable to the most important causes of error. In several instances, they may have been, and no doubt were, deposited by animals in their discharges. In others, no accurate scientific examination took place; and one worm was mistaken for another. On the other hand, worms of the same species, and constantly resembling each other, inhabit the intestines or other parts of the different individuals of any particular race of animals; although they frequently extend to many species of the same or an analogous genus. This certainly seems favourable to the idea of the transmission of germs. They may also inhabit particular regions of country. A striking example of this is that furnished by the bothriocephalus and the tænia, as mentioned above.

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* For the benefit of American readers, we insert the reference, which is omitted by M. BREMSER. Vide Works of FRANCIS HOPKINSON, Esq. vol. i. p. 372; or Transact. Amer. Philos. Soc. for 1783.

† Vide Ed. Med. and Surg. Journ. Jan. 1826.

Whether, in fact, the work of creation be going on around us and within us, is a point which we fancy it utterly impossible for human wisdom, at the present time, to decide. At least, until we are in possession of much more information respecting it, we shall not attempt to prove the negative of this proposition. That the generation or development of worms is promoted by the use of particular articles of food, is acknowledged by both the writers, whose differences of opinion we are recording.

Anatomy.—M. Bremser's work contains but little in the anatomical structure of these singular beings; and its descriptive parts are chiefly confined to those mere external zoological characters by which the animals may be recognized. There is, in fact, but little knowledge of this kind in the possession of the scientific. This reflection induced the Royal Academy of Sciences of France to propose for a prize the production of the best essay on the anatomy of the two intestinal animals, ascaris lumbricoides, and echinorhynchus gigas. Both these were very suitable objects of choice, from their size, which rendered it the easier to dissect them, as points of subsequent comparison with others; and the echinorhynchus seems to have been associated with the ascaris, from its general external resemblance, and from the remarkable differences of its internal structure. The essay of M. Cloquet, cited at the head of this article, was the one which received the prize. We have not space to give a copious abstract, but shall present a general sketch of the anatomy of the ascaris.

The external rigidity of this animal is owing to the hardness of the skin. To this, on the inner surface, closely adhere two coats of muscular fibres; the first forming entire circles round the body, the second longitudinal, and arranged in a dorsal and an abdominal muscle. The *middle lines* of the back and abdomen are, according to our author, nerves. No more central sensorium than this is visible; but these cords, frequently, though not always, form anastomoses around the œsophagus.

The ascaris is provided with a visible mouth, in the centre of the anterior extremity, surrounded by three tubercles, which are the points of insertion of the abdominal and dorsal muscles, and which are supposed to perform a species of trituration on the substances they swallow. To this succeeds a very distinct œsophagus, separated from the stomach by a contraction, and endowed with a dense, muscular arrangement, possessing in a peculiar degree, the power of dilatation; no doubt, for the purpose of suction. Next follow a stomach and intestine, occupying the whole remaining length of the body; through which they pass, in a direct line, to the posterior extremity. To the inner surface of this the intestine finally adheres, and it terminates in a transverse slit, forming the anus.

The chyle, or nutrimental fluid, by whatever name it be called, appears to be absorbed principally from the stomach, and by means of a series of vessels which diverge in two directions from each of the two edges produced in that viscus by the flattened form it possesses. From these, there seems to be a close transition to a set of transverse vessels, which line the back and abdomen of the animal; having, mixed with them, a multitude of pendulous cæca, presenting a very singular appearance, and for which no further use has been found than to contain the nutritious fluid. These are liable, at first sight, to be mistaken for a paste. They are minute, and hang, crowded loosely together, in a cavity moistened with a halitus, and much resembling the peritoneum of larger animals.

The organs of circulation are supposed by our author to be two whitish, lateral lines, extending nearly the whole length of the animal, just within the skin, and opposite the before-mentioned edges of the stomach. These are filled with a spongy matter, which Mr. C. believes to be pervaded by the nutrimental fluid; but in what manner this substance is circulated, he frankly confesses his ignorance.

No apparatus for respiration is found in this worm; unless, as some have conjectured, such be the office of the parts we have just described. M. Humboldt is of opinion that intestinal worms respire by the skin.

The male possesses an organ bearing a singular analogy [illegible] spermatic tubes and vas deferens of quadrupeds and men. It is composed of a single tube of great length, involved in the most intricate manner, and terminating in an enlargement, which still retains the tubular form. The first of these is styled *testicle*; the latter, *vesicula seminalis*. This last then terminates in the tubular cavity of a penis, which is capable of being protruded from the anus.

In the female there are two tubes, which resemble the former so much as to require little further description, but much longer. These are the ovaries. They terminate in enlargements of considerable length, which are the cornua of the uterus; and an extremely short junction and outlet are dignified with the names of body of the uterus and vagina. The external orifice is at one-third of the animal's length, measuring from the head; and, at this place, there is a contraction of the skin, peculiar to the female. This worm is oviparous.

The ascaris is subject to ulcers, scratches, bursting of the abdomen, with escape of part of the genital organs, palsy of the posterior part of the body, transverse rupture of the œsophagus and of the whole thickness of the worm, tubercles of the skin, and varicosities of the lateral lines.

The anatomy of the echinorhynchus presents much curious matter; but our limits positively forbid an abstract. This being is added to the fleshy part of sponges, and, we believe, of some corals, and to the tænia and bothriocephalus, as an additional example of an animal possessed of no *stomach* or *intestinal tube*. This exemption from gastro-enteritis furnishes another stumbling block to those naturalists who have assumed the stomach as the distinguishing characteristic of an animal body; as well as to a late pathologist, who, in his ardour for propagating "la doctrine physiologique," gravely assures us that the digestive tube is the essential part, the "partie fondamentale," as Spurzheim says, of the animal, and that all the other trifling organs, such as the skeleton, muscles, and even the brain and nerves, are mere subsidiaries to this great organ of gastronomy. It is proper to add, that the echinorhynchus possesses no nervous system, which is, indeed, a pretty important part of an animal; and yet this thing is capable of a strange kind of copulation, in which the male protrudes a funnel-shaped organ, in which he *receives* the tail and vulva of the female, and fixes on them a kind of cup, composed of a mucous substance, but which is supposed to contain the semen, and thus to fecundate the eggs as they are discharged. M. CLOQUET has seen this copulation in living echinorhynchi contained in the intestines of a fish; and he has given us a neat engraving of it.

It is conjectured that the echinorhynchus *may* receive its nourishment through pores, one of which is placed in the middle of the trump, situated at what is called its anterior extremity. How to judge which extremity is anterior, in a thing that has neither brain, eyes, limbs, nor mouth, is rather a doubtful inquiry. This, however, is the end which adheres to the intestine. The trump, when protruded, is a knot or tubercle, with a neck, and covered, over its convex surface, with a number of reverted hooks. By a complex apparatus of muscles, this can be retracted into the animal's body, the centre entering first, so as to convert the organ into what its name imports, a real trumpet or cup. In this state, the points of the hooks project directly forwards. When gradually protruded again, those of the edge, which escape first, can be inserted directly into the intestine; they are then expanded, and partially retroverted, a fresh range inserted, the whole then reverted a little further, another set inserted, and so on; till the trump and its thorny appendages are completely buried, with the hooks in their natural position, within the substance of the membrane. The latter then obligingly forms a large tubercle to accommodate its lodger; on the removal of which, a cavity is left, presenting an exact mould of a trump, thorns and all. Such are a part of the wonders of the microcosm of our intestines; at least, of those of hogs and fishes. Poor mucous membrane, how much it has to bear!

Symptoms.—We do not observe, in the catalogue of symptoms given by M. BREMSER, any thing which it is particularly necessary to extract. The usual list is given; paleness, an occasional flush, a blue circle round the eyes, itching of the nose, &c. &c. One of our favourite American symptoms, the author does not mention—the starting from sleep with a sudden outcry. This is added in a note by the translator. M. BREMSER is at great pains to exemplify and enforce the remark, that the ill effects of worms are greatly exaggerated. An enormous quantity of worms are not unfrequently found in the intestines of animals killed for the purpose of examination, and which did not, previously to death, exhibit any marks of disease. Three cases are given, (p. 377, 8, 9,) in which individuals had, at a former period, discharged tænias, and had continued for a long interval to be harassed with the fears of still retaining one, as well as with the administration of medicines. One of these unfortunate persons had been purged almost to a skeleton. Remedies were omitted, and the patient got well, to the disgrace of the physician. M. Bremser does not believe that worms are capable of absolutely obstructing the intestinal cavity, and thus producing ileus or mortification. He analyzes with much skill a number of cases, which he finds in books, given as instances of these effects; and shows, in a satisfactory manner, that the inference drawn was erroneous. If worms are really capable of producing strangulation in a hernia, Mr. B. argues that this must be far more easily manageable than any other species; as the parasites would not only be easily expelled by pressure, during the taxis, but must be induced, by the irritation, to withdraw themselves by a voluntary or automatic act; in doing which, they possess a peculiar facility, from their taper or riband-like form. Among a variety of instances, less numerous indeed than we expected to find them, of different nervous diseases produced by worms, such as epilepsy, chorea, &c. a case is inserted, from M. Serres, of symptoms from this cause resembling hydrophobia.

Treatment.—About one hundred pages are occupied with this subject. We are presented, in detail, with no less than fifteen different methods of destroying the tænia; viz. by Alston, Beck. Buchanan, Clossius, Desault, De Hautesierck, Herrenschwand, Lagene, Lieutaud, Mathieu, Madame Nouffer, Odier, Ratier, Schmucker, and Weigel. We conceive that the purposes of the reader will be best answered by giving, in a condensed form, first, the author's own methods of treating the particular worms, and, afterwards, a list of those remedies which he considers as most worthy of attention.

Of the presence of the *trichocephalus*, he acknowledges he is possessed of no means even of forming a reasonable suspicion in any given case; and yet, as we have mentioned above, it occurred in almost every subject he examined. Two or three of these worms generally inhabit the cæcum, without producing any inconvenience to the animal economy. He has met with no case in any author, where a worm of this species was discharged during life, and saw but one himself. This took place during the use of remedies for the removal of a tænia.

The *oxyuris vermicularis* is well known as an inhabitant of the rectum. They have been found as far up as the cæcum. These are characterized as the most troublesome worms which infest the human body; and they are, at the same time, from their great numbers and rapid propagation, remarkably difficult, and, perhaps, impossible to exterminate. They occasionally inhabit the vagina; and two cases of intolerable pruritus, approaching to nymphomania, are cited, as having occurred from this cause.

M. Bremser reposes but little confidence in vermifuge medicines given by the mouth, for the removal of the oxyures of the rectum. Nevertheless, with a view to drive them downwards, within the reach of enemata, he commences by the use of the electuary, marked, in a subsequent page, No. 1, in the dose of a tea-spoonful morning and night. He is fond (j'ajoute volontiers) of adding a little jalap to it. He then advises a small injection of bitter plants twice a day. (Vide formula, No. 2.) The enema should never be given but after having a stool. In constitutions which are not irritable, he adds a table spoonful of fresh beef bile. This treatment should be continued for several weeks consecutively; after which, the patient will experience a long interval of repose, and *perhaps even* be radically cured. An injection of oil will greatly relieve the itching produced by these animals. To remove them from the vagina, inject cold water with a little vinegar.

For the *ascaris lumbricoides*, or for the *verminous disease* which usually accompanies and produces them, Mr. B. gives a teaspoonful of formula, No. 1, morning and night; and this, in three or four days, generally brings away a large quantity of glairy matter, frequently containing worms. If glairy matter be not discharged, the dose must be increased; and if the quantity there described be not sufficient, he directs a repetition, always taking care to avoid active purging, but only to remove fæcal and glairy matters. This is generally sufficient. Where purging is required, he uses No. 3; and, in lymphatic constitutions, he administers the tonic marked No. 4, for some time, to prevent relapses.

M. Bremser considers this as the treatment, not so much of worms, as of a *verminous disease*. He so far coincides with the opinion of Broussais above alluded to, as to suppose that the worms are produced by a peculiar state of the actions of the system, which forms a quantity of white nutrimental matter, under the names of mucus and glaire, beyond the necessities of the body or the power of the lacteals to absorb it. Removing this, and preventing its recurrence, the worms perish as a matter of course, and are sometimes digested. At any rate, the author has found the purpose answered, and the patient's health restored, in many cases where no worms were discharged; and we believe many American physicians could confirm the statement.

For diet, he "forbids farinaceous matters," dry legumes, and fatty substances, and directs a very limited use of bread. This treatment he has always found successful.

For the *bothriocephalus* he has no treatment distinct from that proper for the common tænia. He has never attended more than three cases of the former; and authors have always confused the two together in their narrations. Mr. B. has treated upwards of five hundred persons afflicted with tænia; and of these not more than four were ever obliged to take the oil of Chabert a second time, with the exception of a fifth, who was again affected with tænia at the expiration of two years, which our author attributes to a new production of the worm, and not to generation by those which preceded it.

The method of treatment is as follows. Commence with one prescription of the electuary, No. 1, and give it, in the manner above directed for ascarides, till it is exhausted. Then give the empyreumatic oil of Chabert, in the dose of two teaspoonfuls morning and night, with a little water. To get rid of the offensive smell, swallow with some effort a few mouthfuls of water; but carefully avoid rinsing the mouth, as this process is apt to project minute portions of the oil into the posterior nares, and by this means the smell is retained for a long time. If the taste be thought unpleasant, chew a clove or piece of canella alba; but avoid mint and other substances capable of producing eructations.

Many persons are unable to bear this dose, and in these it occasions uneasiness at the stomach, dizziness, nausea, eructations, and colic. M. Grundler, the translator, was unable to take, in his own person, more than half a teaspoonful. Where difficulty is met with, it may be taken an hour and a half after a meal; in other instances, before meals.

After taking two and a half or three ounces of this medicine, a purge is given; for example, No. 3, and then the oil is recommenced. Four or five ounces are given in common cases; and, in those which have resisted many remedies, six or seven. This requires from twenty-four to thirty-six days. All successful empirics and others, he says, enjoin the use of their remedies for about a month. M. Bremser has generally seen the worm discharged, half digested, at an early period of the treatment; and he continues the use of the medicine, to allow any ova which may have been deposited in the mucus of the intestines, to hatch and expose the young to the action of the medicine. This is the more proper, as it is known that ova and seeds will bear many things without injury, which would destroy the living animal or plant.

The only diet prescribed is moderation in the use of the articles enumerated above as injurious in cases of ascarides.

The test of cure is the continuing three months free from all traces of the worm. Should these recur at a later date, our author considers them as arising from the formation of a new tænia, not the offspring of its predecessor.

The detection of the *head* in the discharges is inconclusive as a proof of the cure; as it is not uncommon to find two or more tæniæ in the same patient.

We now proceed to the author's formulæ; which we have been obliged to translate into a mode of writing more familiar to Americans, and, we will add, more scientific, than that which he employs.

No. 1. The electuary.

℞. Sem. artemisiæ judaicæ, cum̀ flor. tanaceti
vulgaris, leviter contus. - - ℥ss.
Pulv. valerianæ, - - - ʒij.
jalapæ, - - ʒiss.......ʒij.
sulphat. potassæ, - ʒiss.......ʒij.
Oxymel. scillæ, q. s. *m.* ft. electuarium.

Two or three teaspoonfuls to be given in the course of every day.

No. 2. The enema.
R. Herb. artemis. absynthii, et
Rad. valerianæ offic. āā - - ℥i.
Sem. tanaceti vulgar. et
Cort. aurant. āā - - ℥ss.
m. et conserves in usum.

Pour a pound of boiling water on two table spoonfuls of this mixture, cover the vessel and digest for one night, strain, and employ the liquor for two enemas, adding to each of them one teaspoonful of empyreumatic oil of hartshorn.

No. 3. The purge.
R. Pulv. jalap. - - - - ℈j.
fol. sennæ, - - - ʒss.
sulphat. potass. - - ʒj.
m. ft. pulv. in dos. iij, vel iv, dividend.

One dose to be taken every hour, or half a dose every half hour, till they operate.

No. 4. *Empyreumatic oil of Chabert.*
R. Ol. empyreumatic. cornu cervi, partem j.
Ol. terebinthini, - - partes iij.
m. digeras per dies iv, et distillas partes iij.

For its dose and employment, vide the preceding pages. This article must be kept in small vials, well corked and tied over with pieces of bladder; as contact with air renders it more disagreeable.

No. 5. Tonic tincture.
R. Tinct. aloes composit. pharmacop. Austriac. ʒj.
Tinct. martis pomatæ pharm. ejusd. ℥j.
Elixir vitrioli pharm. Londinensis, ℥ss. *m.*

To take ten, twenty, thirty or more drops three or four times a day, in a little water or wine.

M. Bremser acknowledges this last compound to be unscientific, as it undergoes decomposition; but he boasts of its success. We do not fear being at a loss to form one equally good from the American Pharmacopœia.

Of particular remedies.—The frightful number and absurdity of those which have been recommended by authors, at different times, for the cure of worms, are, by M. Bremser, justly turned to ridicule. He cites, from Leclerc, the following specimen, being a part of those taken by the latter from the animal kingdom

alone. Alcis ungula, anseris adeps, apri urina, avium pennarum cinis, bovis talus ustus, bovis stercus ustum, cum castoreo suffitum, caprinum stercus, caseus veteratus, cantharides, hominis urina, et ossa, lumbrici intestinorum exsiccati, &c. &c. &c. &c.

Of the immense mass of medicines proposed as anthelmintics, the notorious and long felt difficulty is to make a selection. We shall conclude, therefore, with enumerating those which are considered by our learned author as worthy of attention; occasionally making such observations as the occasion seems to call for.

Mechanical irritants.

Zinc, in filings or granulated. PALLAS prefers the granulated form, as he considers the filings too irritating for the bowels.

Cow-itch, the stizolobium or dolichos pruriens. The author appears to possess no knowledge of this remedy but what is borrowed from CHAMBERLAINE's little work.

Powdered charcoal. Said by PALLAS to be used in Iceland.

Yellow carrots, grated. Used in Germany.

Substances specifically destructive of life to the worms.

Cold water. Useless, when given by the mouth, as it becomes warm before it reaches the small intestines. As, however, this is speedily fatal to all intestinal worms, it is employed with advantage in injections.

Mineral waters, containing sulphate of soda. These, which our author, with a rather unbecoming slight to chemistry, calls, in one place, simply "salt water," have been very effectual in removing tæniæ at "St. Chat, near Sadler's Wells, near London."

Powdered root of Valerian. Very efficacious as a worm-poison; and possesses the additional recommendation of being highly serviceable to the nervous symptoms which worms sometimes produce.

Garlic.

Onions.

Semen contra. This strange name is applied to the artemisia judaica, the article otherwise called semen santonici and semen cinæ. This is a favourite remedy of our author. He seems, however, always to have given it in combination with flowers of tansy, (tanacetum vulgare,) in proportions not mentioned. This mixture is probably an article familiarly kept by the Austrian apothecaries; and we have no access to a copy of their pharmacopœia. It should be somewhat coarsely powdered, and recently so, as it spoils by keeping.

Fucus helminthocorton. The standing remedy of the French physicians.

Chenopodium anthelminticum. We live in such an obscure corner of the world, that we must not be mortified to find the use of our favourite "worm-seed oil" merely set down as an "*on dit.*" "The seeds of this plant are, *as people say*, often employed in America against ascarides;" and this fact, cited from BRERA, is all M. BREMSER knows about it.

Cortex angelinæ.

Grana crotonis tiglii. Rather a purgative than a poison, as M. BREMSER remarks.

Spigelia anthelmia, and *spigelia marilandica.* Our author follows VAN SWEITEN in condemning the use of both these as highly dangerous. Indeed, when we consider Mr. B.'s entire ignorance of our every day remedies, and our ignorance of his own, we are sometimes tempted to fancy that it is of China or Japan that we are reading, and not of the people that proudly inscribed the ceilings of their palaces with the five vowels, a, e, i, o, u.*

Geoffræa Surinamensis.

Semen sabadillæ.

Juglans regia. An infusion of walnut hulls; or, according to ROSENSTEIN, an extract of them.

Assafœtida. M. BREMSER evidently doubts the usefulness of this article, which he describes as much in use, "probably because it has a bad smell."

Camphor. Many authorities recommend this substance. M. BREMSER inclines to think that they have mistaken a discharge of worms produced by fevers for the effects of the medicine employed. We seldom render ourselves liable to this mistake, in America, as we do not often use camphor in fevers.

Male fern. Polypodium filix mas. This remedy, the basis of Madame NOUFFER's famous medicine, is still much in use in Europe. M. BREMSER does not think it successful against the true tænia; though he acknowledges it to be so against the bothriocephalus or *tænia lata.* He recommends its use, however, as a good test of the presence of the tænia; as, if it do not bring away fragments, the chance is "ten to one" that none is in existence. Our author thinks it will not completely destroy the true tænia solium.

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* Austriacorum est imperium orbis universi. Vide lady MONTAGUE's letters.

Male fern should be carefully gathered while in good condition, and both the top and bottom of the root cut off, to be rejected.

Prussic acid.

Petroleum. Stated by several authorities to be useful for tænia.

Oil of turpentine. We need not condense his comments. The reader will observe that this enters into his favourite article, again to be mentioned.

Oil of Cajeput. Recommended by Rudolphi.

Animal oil of Dippel. Successful against the ascaris, and sometimes against tænia.

Empyreumatic oil of Chabert. This remedy, which is our author's principal dependance against tænia, has been already mentioned.

Quicksilver. M. Bremser believes this article entirely useless, except from the lead it contains.

Salivation, with oxides and salts of mercury, does not destroy worms. Scopoli observed *a very unusual number* of ascarides among the workmen employed in the quicksilver mines at Idria. Certainly, if this be true, it is time such a dangerous and cruel practice was abolished.

Meconate of barytes, and

Solution of arsenic, will destroy worms, but are rejected, as highly dangerous poisons.

External application of these remedies by friction on the abdomen. M. Bremser asserts that this method is capable of destroying worms. He takes occasion, however, to combat an idea which had met with advocates, that ascarides adhere to the inner coat of the intestines, or that these or any other intestinal animals were capable of perforating them. He enumerates, as having been employed in this way, oil of cajeput, warm baths, petroleum mixed with garlic, beef bile, poultices of tansy, antirrhinum linaria, and wormwood, unguentum Agrippæ, unguentum Arthanithæ, aloes, coloquintida, ether, camphor, and galbanum, together with other substances employed as vehicles. Mr. B. contents himself with saying that they may be used by those who will not take remedies internally. This sounds rather unprofitable.

Purgative medicines. Of course it will not be expected that our author should enumerate all the purgatives proper for removing worms and glairy matter. The *sulphates of potassa* and *soda* are recommended. The *muriate of soda* is quoted from an English work. *Tartar emetic* is quoted from various authorities, and judged peculiarly proper for verminous fevers, where *it* is indicated by other symptoms. *Nut oil* is thought to have been useful among the Germans, for removing tænia. *Castor oil* and *senna* are mentioned with approbation; but a decided preference is given to *jalap*.

In conclusion, we have only to add, should inconsistencies which have crept into our analysis remain uncorrected, that we claim indulgence on account of the peculiar difficulty of our task. No one would anticipate the trouble and delay we have met with; and, indeed, should our review be pronounced confused and undigested, it might well deserve these epithets, and yet be a very fair representative of the book. It is full of valuable materials, with some most amusing eccentricities; and yet is in so crude a state, that this must unavoidably greatly diminish its usefulness.

ARTICLE VIII.—*Precis Theorique et Pratique sur les Maladies de la Peau.* Par M. S. L. ALIBERT, 2 tomes, 8vo. Paris, 1810, 1820.

THE work, whose title constitutes the heading of this article, is offered to the public as the result of long continued experience. The observations are principally drawn from the clinical practice of St. Louis' hospital in Paris, established for the reception of persons affected with diseases of the skin. In this vast theatre, where so many cases are continually accumulated, the author had ample opportunity of observing the diversified forms exhibited in this class of morbid affections, of watching the progress, periods, and decline of the several species, and of noting the comparative effects of the various remedial means employed for their relief.

Coming from one enjoying a distinguished rank in his profession, possessing so fine a field for observation, and assiduously devoted to the improvement of this branch of pathology, this will be received as of high authority, and will be eagerly read by all to whom it is accessible.

Many of our practitioners are not familiar with the French, and few copies of the work before us have reached this country. We shall, therefore, probably render an acceptable service to the readers of this Journal, by presenting an epitome or condensed view of ALIBERT's valuable treatise on the diseases of the skin.

In the sketch we are about to lay before the American public, we shall abstain from critical remarks on the doctrines and practice contained in the original, and we feel this to be more incumbent on us, as we are sensible that from our own experience we are unprepared to controvert in any particular the correctness of the author's statements, to throw any additional light on portions of the system still involved in obscurity, or to establish clearer indications in the treatment of those defœdations of the skin which have hitherto proved obstinate if not incurable.

Some apology may be due to the author and to the public, if, in the execution of this abridgment, we have not conveyed the exact meaning of the text. We disclaim all intention to pervert or to falsify. We have sought not to exalt or to decry; officiating as the mere purveyors or retailers of knowledge, emanating from the most respectable sources, we have been anxious to perform the duty of analysis with fidelity, and in a manner that may be useful.

TINEA.

First species.—*Tinea Favosa.*

The crusts form tubercles of a yellow colour, insulated and circular, or running together, constituting large incrustations on the hairy scalp, the centres depressed and pitted, their edges raised and prominent, resembling the cells of the honey-comb.

It commences by very small pustules, attended with itching, and seated on the hairy scalp. The contents are puriform, and, on drying, give rise to numerous crusts or tubercles, excavated in the centre, gradually increasing in size, though still preserving the circular form.

When very numerous, the edges are blended together, and then the central depression is no longer perceptible. In the more recent cases, the crusts are yellow, but in those of longer standing, they are white, broken and detached from the scalp, their regular form being destroyed.

The cutis is deeply affected, and the scabs cannot be removed without occasioning the discharge of blood.

Frequently there are rhagades or chops, succeeded by a discharge of corrosive ichor, destroying the scalp, and even the bones of the cranium. This destruction of the bones is, however, of rare occurrence.

The patient becomes troubled with lice, and the itching is intolerable. The odour resembles that of apartments frequented by mice, or it may be likened to the urine of cats. On the falling off of these crusts the smell is very nauseous.

In the spaces between the pustules furfuraceous scales are frequently observed.

Baldness sometimes follows, and the skin presents a smooth and polished surface.

The enlargement of the lymphatic glands, and the tumefaction of the skin are neither constant nor peculiar to this disease, and are, therefore, not enumerated among the essential symptoms.

In illustration he gives six cases; these show that the disease is not confined to the hairy scalp.

Second species.—*Tinea granulata.*

The tubercles consist of small grains of a gray or brown colour, irregular, unequal, and without central depressions.

The disease is not so diffused, and is more frequently confined to the posterior and upper parts of the head. ALIBERT describes the crust as resembling broken mortar.

The pustules are distinct, and do not deeply affect the skin. In the intervals branny scales are frequently observed. The odour resembles rancid butter or putrid milk, very perceptible when the eruption is moist, but when dry this odour vanishes.

The itching is very distressing. On removing the crusts, the scalp appears red and erythematous. Small abscesses are seen, which secrete a viscid matter, that concretes and forms the scabs. It is confined to children. Six cases in illustration.

Third species.—*Tinea furfuracea.*

Distinguished by the branny scales. White, sometimes moist, and adherent to the hair by means of a viscid, fetid matter; at other times dry, and readily falling from the head.

It commences by a slight desquamation of the cuticle, accompanied by itching. From the inflamed skin there is an ichorous discharge, that, on drying, forms numerous scales.

It is, for the most part, confined to the hairy scalp, though it occasionally attacks the forehead. It never affects adults. Six cases in illustration.

Fourth species.—*Tinea asbestena.*

Scales white, shining like silver, matting the hair.

This disease, first described by ALIBERT, occupies, generally, the upper and fore part of the head. It is characterized by the fine shining scales which adhere to, and cover the hairs like the pellicles of new formed feathers. It is dry and inodorous. Four cases in illustration.

Fifth species.—*Tinea muciflua.*

It consists of small superficial ulcerations, affecting the hairy scalp, though sometimes extending to the forehead, temples and ears; nor are the trunk and extremities exempt. These ulcers secrete a fluid, resembling damaged honey. When the matter dries, it is yellow, like wax. These ulcers are preceded by pustules of various sizes, by pointed vesicles, or small abscesses. The rupture of these, whether spontaneous or occasioned by the child's scratching, is followed by the discharge of a viscid fluid, that is converted into soft scabs of a pale yellow, mixed with pink. The part of the scalp, not occupied by these ulcers, is swelled, and raised into lumps; and the ears become much swollen. The cheeks are inflamed, and there is violent itching.

The head rendered bald. The denuded scalp being red, smooth and moist, exhaling an odour like sour milk that is putrifying.

According to ALIBERT, when the eruption is dry, the health and spirits of the child are impaired, but on the discharge being renewed, the functions are regularly performed, and the countenance is animated. Four cases in illustration.

The tinea favosa and the tinea muciflua constitute the most frequent forms that come under the notice of the physician. The tinea furfuracea, being a milder disease, is more frequently the subject of domestic treatment.

The whole system becomes affected. Languor; inaptitude for any exertion of mind or body; racking pains at night; emaciation; deficiency of growth; imperfect development of the sexual organs, and the non-appearance of those changes which usually occur at the age of puberty. The nails become diseased, covering a glutinous fluid.

The disease rarely affects infants at the breast, but makes its first attacks from about the second year, up to the seventh. The tinea asbestena has been observed only in adults. Most of them disappear about the age of puberty, and without medical aid.

ALIBERT considers the disease as connected with the various successive evolutions of the system before it arrives at maturity. He appears inclined to the opinion, that even the development and exercise of the intellectual faculties may have some agency in the production of the complaint.

Upon this principle, Dr. ALINGER proposes to inoculate the matter of tinea muciflua, with the view of preventing or curing some of the obstinate diseases, incidental to children. And Dr. L'HOMME, a physician, residing at Oulchyle Chateau, adopted this practice with the happiest success in a child, affected with a chronic enteritis. By means of a lancet, imbued with the matter obtained from the tinea muciflua, he made six punctures on the forehead of his little patient. And, to insure the success of this experiment, every night the child's head was covered with a piece of linen, moistened with the same fluid. In ten days its face was covered with moist scabs. In proportion as the eruption took place, the symptoms of enteritis vanished, and, by the aid of mild tonics, the child recovered its appetite and strength.

He refers to FORESTUS, BONET, and HOFFMAN, in proof of the appearance of hydrocephalus from the repelling of tinea.

The different temperaments are not equally subject to the various forms of tinea. The T. favosa is generally observed in children of a bilious and sanguineous temperament. Those having a dark, or brown skin, are the most liable to the T. granulata. The T. furfuracea is most commonly seen in persons having brown hair. The T. asbestena has uniformly occurred in persons of a melancholic temperament. The T. muciflua affects children with yellow hair.

Gross and indigestible food, abounding in albuminous matter, has been considered as favouring the production of tinea. Want of cleanliness is another frequent cause. According to ALIBERT, this disease is rarely propagated by contagion.

The complaint under consideration is certainly not seated in the bulbous roots of the hair, as it is frequently seen in those parts where the hair is entirely wanting. The original seat of the disease is in the skin itself. The anatomical investigations after death shed no light on the nature of the disease.

From the chemical experiments of M. VAUQUELIN, it appears that the T. favosa contains more albumen than gelatine, that the T. furfuracea contains an excess of gelatin, and that the T. granulata is entirely gelatinous.

The treatment directed by ALIBERT consists in the exhibition of a bland and light diet, avoiding all those circumstances which can cause a sudden disappearance of the disease. He speaks not with confidence of any specific treatment: of the various topical means which have been recommended, he obtained the greatest success from a cerate mixed with flowers of sulphur.

Bloodletting, general and topical, blisters, issues, &c. as proposed by AMBROSE PARY, FORESTUS, and GUY DE CHAULIAC, are to be employed as circumstances may require. On some occasions, he found bathing the part with warm water particularly beneficial. Sometimes mere attention to cleanliness will remove the disease when in its milder forms.

In explanation of the contradictory results observed in the treatment of tinea, he remarks, that, like other cutaneous affections, it has its periods of invasion, increment, and decline, and that the success of the remedies will depend upon their being adapted to these several conditions.

In summing up his experience, he notices the benefit he obtained from ablutions with bran water, particularly when impregnated with the flowers of sulphur, and from the use of the factitious sulphur water of Naples and Bauges, which contain the hydrosulphuret of soda. In the inveterate forms of tinea he employed very successfully an ointment composed of common potass, carbonate of potass, and the carbonate of lime. The proportions are not given. With this topical treatment, he at the same time directs the internal exhibition of the preparations of sulphur, and the juice of demulcent plants.

PLICA.

Plica signifies the matting of the hair, and appears to be endemic in Poland, Lithuania, Hungary, and Transylvania, from the source of the Vistula as far as the Krapach mountains, in Prussia, Russia, and Great Tartary. It has been rarely observed in the western parts of Europe. According to the testimony of RODERICK à FONSECA, some of the Indian tribes in South America are affected with a similar disease.

It is not peculiar to man, but frequently attacks quadrupeds, both domestic and wild. Birds, however, of all kinds appear to be exempt.

Three cases only have come under the notice of ALIBERT, two of whom were Poles, and the other was a native of the north of France. His information has been, therefore, not the result of experience, but derived from those writers whom he deemed the most entitled to respect. He describes three species.

1. Plica caput medusæ, of which he gives two varieties.
A. Plica caput medusæ lacciniata.
cirrhata.
2. Plica longicaula. Four varieties.
lateralis.
fusiformis.
fulciformis.
clavæformis.
3. Plica cespitosa.
calyptræformis.
globiformis.

The different forms of plica are commonly ushered in by prostration of strength, lassitude, erratic pains in the articulations of the hands and feet, extending to the shoulder, the spine, the back of the neck, and head. In the evening there is fever, which goes off towards morning by a viscous, adhesive, and very fetid sweat. The pulse becomes natural, and there is a remission of all the symptoms.

To these succeed convulsions, subsultus tendinum, tingling in the ears, severe headache, vertigo, pain in the orbits, pricking, and a distressing stricture in the back part of the hairy scalp. The hair becomes matted, forming masses variously twisted, like the snakes on a Gorgon's head. Sometimes it is extended into long pendulous tails, reaching the knees, or trailing on the ground. Sometimes it sticks up like the bristles of a hog. Sometimes it is rolled up into irregular masses, oppressing with their weight the head of the poor patient. Myriads of lice burrow in the midst of these tufts of hair, and large quantities of branny scales are seen at their roots.

The disease is not confined to the hairy scalp, but affects other parts of the body where hairs are found.

Often the nails of the fingers and toes are the seat of the disease, particularly in persons who are bald. They become yellow, livid, black, like goats' horns, or bent like the claws of beasts of prey.

These hideous appearances are occasioned and maintained by a viscous exudation from the pores of the skin, and even from the hairs themselves, as proved by microscopic observations. The smell is very offensive, like that of rotten cheese, though Niskouski records a case of a young lady, in whom the odour resembled that of ambergris.

Those having brown hair are the most subject, though no complexion seems to be exempt.

It seems not always confined to the surface of the body, but is occasionally found to be complicated with affections of the internal organs, as apoplexies, dropsies, dysenteries, consumption.

Respecting the causes and specific nature of Plica, little is known.

In the treatment of the disease, according to Alibert, we must watch the progress. The first indication is to clear the primæ viæ, and determine to the skin, and is generally, successfully accomplished by the preparations of antimony. When the disease is attended with a free discharge of the peculiar viscous matter which mats the hair, mild sudorifics and demulcents are recommended. If the patient be affected with fever, this must be moderated, and if the strength fail, tonics and a generous diet will be required.

Considering the disease as being often a critical effort, he seems averse to the early removal of the hair. Mild fomentations and ablutions are directed to allay irritation, and if the disease be accompanied by severe affections of important organs, the determination to the surface is to be invited by blisters, burning of moxa, or the application of the acrid matter discharged. We must attempt to excite the external disease in its full force.

HERPES.

According to the system of Alibert, this comprehends numerous morbid affections of the skin, appearing as scales, crusts, pustules, phlyctenæ, rhagades, and ulcers, modified by the age, sex, temperament, habits, and condition in life. Hence it is naturally divided into several species.

1. *Herpes furfuraceus*, consisting of minute exfoliations of the cuticle like meal or bran, diffused, or collected in patches firmly adhering to the skin, or easily detached, of which our author makes two varieties, H. F. *volitans*, observing no regular figure, and H. F. *circinatus*, collected in figured patches, slightly elevated above the skin. In this variety the scales adhere firmly to the skin, and, on being removed, the spot is red and shining. The patient is often tormented with considerable pruritus, proportioned to the sensibility of the part, especially when exposed to the heat of the fire, or when warm in bed. There is, however, for the most part, no disturbance of the general system.

Six cases are given in illustration, showing that the disease is often spontaneous, though on other occasions it may be traced to violent affections of the mind.

2. *Herpes squamosus*, consisting of exfoliations of the cuticle, much larger than in the preceding species. The scales can be easily detached by the finger nail, and often fall off spontaneously.

H. S. *madidans*. In this variety, which is very common, there is a continual exudation from the skin, soiling and stiffening the linen. It affects most commonly the ears, nose, mouth, and genitals, but sometimes it occupies the whole surface of the body, occasioning intolerable distress.

H. S. *orbicularis* appears concentric in circular patches of dry scales, that fall off and are soon renewed. Seated for the most part on the middle of the cheeks. It becomes more inflamed in certain states of the weather.

H. S. *centrifugus* attacks the palm of the hand, commencing in small circles, gradually extending from the centre to the circumference, until the whole hand is stripped of its epidermis, when the cuticle is renewed, and the disease ceases.

H. S. *lichenoides* is made up of hard, tough, white scales, like the lichens, of which it bears the name.

In the H. S. *madidans*, the skin becomes chopped. One edge of the scale loosens, while the other adheres firmly, differing in this respect from the H. S. in which the scales are detached at once. A violent pruritus usually attends this form. The integuments thicken, and frequently there is œdema; the hair falls off; the surface is covered with a fetid ichor of the odour of worm eaten wood; there is hectic; the body wastes; and at length, death closes the scene.

Five cases in illustration.

3. *Herpes crustaceus* appears on different parts of the body, in yellow, white, gray, or green scabs, varying in figure and duration.

Three varieties.

H. C. *flavescens*, consisting of yellow scabs, resembling dried honey. It commonly attacks the cheek, though other parts of the body are not exempt.

H. C. *procumbens* assumes the form of stalactites found in caves. It attacks the alæ of the nose.

H. C. *muciformis* resembles the moss that grows on the roofs of houses. It affects the hands, the thigh above the knee, and the face. It commences by a minute vesicle on an inflamed base, not easily to be distinguished from the vaccine of the fourth or fifth day. The further growth for some time is very slow; but having acquired a certain volume, it increases rapidly. Eight cases are given in illustration of this species of herpes.

4. *Herpes exedens* appears on different parts of the body in pustules or corroding ulcers. The ravages are often not confined to the skin, but extend to the muscles, cartilages, and even bones.

Three varieties.

H. E. idiopathicus.
    scrophulosus.
    syphiliticus.

Dull pain in the part, accompanied by itching. The skin becomes inflamed and swollen, in the centre of which a small pustule appears, which soon breaks and discharges a corrosive ichor that contributes to increase the disease. This matter frequently concretes into a scab that covers the ulcer. If the scab fall off, it is succeeded by another. The disease is for the most part confined to a spot, as the nose, lip, &c. which it generally destroys. The lymphatic glands are enlarged. Where the ravages have been extensive, there is hectic fever, and diarrhœa, the precursors [illegible] fatal issue. The disease is confined neither to sex nor age.

Eight cases are given in illustration. Alibert states that he has seen eight hundred cases of the disease.

5. *Herpes pustulosus* appears on one or many parts of the body, in pustules, varying in size, more or less contiguous. The matter contained in these pustules becomes dry, and forms scales or thin scabs which fall off and leave a reddish spot or mark.

Four varieties.

H. P. *mentagra*, affecting the chin, and particularly troublesome in men.

H. P. *gutta rosea*, occupying the nose, cheeks and forehead, particularly observable in persons addicted to the use of ardent spirits.

H. P. *miliaris*, composed of small white pimples like millet. Young girls about the age of puberty are very liable to it.

H. P. *disseminatus*, composed of large, red pimples, affecting the breast, back of the shoulders, and sometimes the face, attended with a burning heat. They are very obstinate, and leave a stain on the skin of a dirty red colour.

The disease is connected with derangement of the chylopoietic viscera; and, in females, the condition of the uterus exerts considerable influence. Eight cases in illustration.

6. *Herpes phlycenodes*, consists of minute phlyctenæ or vesicles, containing a limpid fluid or serosity, which, on drying, form reddish incrustations, as in erysipelas. Often there are several crops. Two varieties.

H. *ph. confluens*, consists of numerous confluent vesicles, affecting not only the skin, but the mouth, œsophagus, stomach, and intestines—sometimes a fatal disease. A sense of burning is a constant attendant.

Grief, fatigue, and vicissitudes of temperature are mentioned as the causes.

H. *ph. zonæformis*, consists of small round vesicles, collected in clusters, extending like a zone, from the spine to the linea alba, occupying one side. The eruption is accompanied by considerable itching, loss of appetite, restlessness, and fever. Six cases in illustration.

7. Herpes *erythemoides*, consists in red, inflamed [illegible]ations of the skin, which finally terminate in thin desquamation of the cuticle, as in erythema; much increased by scratching, to which the

patient is compelled by the continual itching. Heat of weather, salted meat, ardent spirits, and various irritating articles of diet frequently occasion it. Some are of the size of pins heads, others exceed half an inch in diameter, and resemble the stinging of nettles. It is generally preceded by disturbance of the digestive organs, headach, and sometimes fever, which usually subside on the appearance of the eruption. Two cases in illustration.

In the treatment, peculiar attention must be paid to the specific character of the disease, likewise to the period as relating to the rise, progress, and decline. The influence of climate and season must not be overlooked. The temperament, and peculiar texture of the skin in the individual affected, must be carefully examined, and the remedies are to be selected and administered according to the knowledge thus obtained.

Of the means to be administered internally, the preparations of mercury and sulphur appear to be the most efficacious. With the sulphuret of potass, ALIBERT says he has been very successful. The remedy is, however, forbidden in persons who are subject to the gout and epilepsy.

Sulphur is likewise necessary in those of a scrofulous habit, and in females whose milk has been suddenly dried up.

Purgatives, bloodletting, and a restricted diet may be required. Salted meat, spices, and ardent spirits have been observed to aggravate the disease.

The disease being seated in the skin, may be brought under the immediate agency of external or topical means. When the skin is red and inflamed, emolients will be found beneficial. Under this head, are included the warm bath, ablutions with mucilaginous and farinaceous decoctions, and the vapour of water, either simple, or impregnated with various medicinal articles.

Excepting in the conditions already noticed, no remedy, according to ALIBERT, is better adapted to the topical treatment of herpes than sulphur, either mixed with lard, in the form of ointment, or in combination with potass or soda, when it forms a compound of ready solution in water, imitating the mineral waters of Bareges and Tivoli, which have long enjoyed great celebrity in removing these defedations of the skin.

The Herpes exedens generally requires the free use of caustic, as pure potass, provided the inflammatory action has been previously subdued by emolients and narcotics, as the hyosciamus, solanum nigrum.

EPHELIDES

Is applied to stains or marks, generally of a brownish colour.

1. *Ephelides lentigo.* Freckles. These are not the object of medical attention.

2. *Ephelis hepatica* appears in spots of a saffron colour, on different parts of the skin, single, or accumulated in patches, and often terminating in a slight desquamation of the cuticle. They affect the neck and sides.

Two varieties.

E. *hepatica persistens.*
fugitiva.

3. *Ephelis scorbutica,* appears in spots of a dirty yellow or brown colour, like soot. It affects the breast, back, and the outside of the arms and thighs. On some occasions it extends over the whole surface of the body.

E. *scrobutica maculata.*
variegata.

The disease is often connected with some disturbance of the digestive organs, and is relieved by purgatives and diuretics. If the liver be affected the appropriate remedies must be employed.

Frictions, the warm bath, and exercise, as favouring perspiration, have been found serviceable.

CANCROIDES,

Are fleshy excrescences, oval, or oblong, of a pale red colour, interspersed with white lines, firmly adhering to the skin, rising one or two lines above its surface. They lose their colour on pressure. There is heat, itching and lancinating pain, aggravated at night. For the most part solitary, observed between the mammæ, on the back of the arms and shoulders. Affects females more than males. Rarely admitting of spontaneous cure. All the means hitherto proposed have proved ineffectual. Extirpation by the knife, or caustic, has only tended to aggravate the disease.

LEPRA

Comprehends several species.

Lepra squamosa appears in the form of circular scales, surrounded by a red margin; hard, warty, and rough to the touch, with fissures or rhagades of a gray or ash colour, like the bark of a tree, or the scales of fish.

Three varieties.

1. *L. sq. Alphos, vel Leuce.* The zaraul of the Hebrews, consists of white scales, spread on different parts of the body, collected in patches, with a red margin.

L. sq. *nigra*, having dark coloured scales, the margin livid or purple, the scales are harder, and more shining; connected with scurvy.

L. sq. *tyria*, having large, firm scales, like fish or serpents. The parts covered with these scales are often moistened with a purulent discharge.

The Lepra is attended with pruritus, increased by warmth. It commences in a small scale, seated on an inflamed base, which falling off, is succeeded by a fresh crop, more extended, and often presenting a circular edge, elevated above the level of the centre. On the removal of the scales, there is a slight depression of a smooth shining red. Occasionally the nails are affected, and fall off. The hair of the head and eyeballs changes its colour and falls off. It is affected by the weather, and is generally most severe in the spring.

Three cases in illustration.

2. Lepra *crustacea*, appears in rough, furrowed, tuberculous scabs, with chops. On falling off, they leave indelible cicatrices.

Four varieties.

Lep. crust. *vulgaris*, consisting of pustules, which are converted into hard, rough scabs, of a greenish yellow colour, acquiring often a dark colour.

Lep. crust. *scorbutica* appears in rough, ash coloured scabs, marked with deep furrows, extending to the skin; occupying the metacarpus and metatarsus; sometimes like a collar round the neck. The accompanying symptoms, are shaking of the head, burning of the mouth, aphthæ, weakness of the stomach, lassitude, great sensibility of heat and cold.

Lep. crust. *malum mortuum*, appears in pustules, covered with large scabs, deeply furrowed, tuberculous, of a greenish yellow colour, leaving cicatrices. Affects the arms, thighs and legs, the face and breast: accompanied by languor, marasmus, and, in young persons, preventing the growth and natural development of the system.

Lep. crust. *syphilitica*, more fully noticed under the head of syphilis.

Three cases in illustration.

3. Lepra *tuberculosa*. The skin becomes thick, hard, uneven, and rough, like the hide of an elephant. The hair becomes white, and falls off. The limbs loose their sensibility.

Lep. tuber. *leontiasis*. The lips are thickened, the nostrils extended, the forehead hideously wrinkled, the voice hoarse, the ears enlarged, the eyes red, inflamed, and glaring.

Lep. tuber. *elephantiasis*. The skin of the lower extremities is thrown into thick hard lumps of a grayish colour, like the hide of the elephant. The feet, legs and thighs, acquire an enormous size. This swelling is elastic. The surface is covered with warts, that, suppurating, degenerate into foul, corroding ulcers, destroying even the cartilages and bones. These ulcers are of a dirty red colour, their edges elevated, hard, and uneven, livid or bluish. The discharge resembles the washings of flesh. Sphacelus affects the hands and feet, destroying the fingers and toes. Languor, lassitude, depraved appetite, loathing of food, or an inordinate desire, insatiable thirst, urine sometimes turbid, at other times clear. Dyspnœa; hectic; coliquative diarrhœa. Bloody stools have been observed to attend the progress of the disease.

Five cases.

Lepra is hereditary. It abounds in damp, marshy situations; more especially in warm climates, though it is frequently seen in the frozen regions of the north. It is often brought on by bad diet. CASAL, who observed the disease in the province of Asturia, considered it as produced by a diet of Indian corn. Filth, and the want of personal cleanliness must be enumerated among the causes. ALIBERT deems it not contagious.

Considering the character of the different forms of Lepra, the treatment is necessarily various. The scaly forms have generally yielded to baths, either simple or modified with farinaceous and emollient decoctions, or impregnated with sulphur. In the Elephantiasis, tonics, and among these, arsenic have been recommended.

FRAMBŒSIA BATINODES.

1. *Frambœsia batinodes.*—Yaws or sibbens, consists of granu-

lated excrescences, resembling raspberries, and discharging a yellowish green ichor, viscid, and very offensive: they often degenerate into foul ulcers, with livid flaccid granulations.

2. Framboesia *mycoides* appears in oval fungous tumours on the face, limbs, thorax and abdomen. They resemble mushrooms, and burst like rotten fruit, discharging an offensive ichor. Lassitude, dull pain in the head, loss of appetite, restlessness and fever, accompany the eruption. In the farther progress of the disease, the bones become painful, spongy and carious.

The yaws attacks chiefly the negroes, affects them but once, and pursues a determinate course.

The duration and danger are in proportion to the extent of the eruption.

In the treatment, mercury, and the decoctions of guaiacum, sarsaparilla, and sassafras, have been found most beneficial: to the ulcers, various escharotics, but particularly the red oxide of mercury are directed.

1. ICTHYOSIS NITIDA

consists of thin, hard, elastic scales, of a pearl or gray colour.

I. N. *cyprina*, hard, white scales, like those of the carp.

I. N. serpentina, thin, soft scales, like the slough of a snake. It affects old people.

The Icthyosis nitida attacks those parts where the skin is naturally thickest; as the knees, elbows, skin outside of the thighs and arms: it is not accompanied by itching, or any uneasiness: digestion remains unimpaired.

2. Icthyosis *cornea*, appears in dark coloured scales, having the consistence and hardness of horn; sometimes flat or conical, numerous and associated; at other times, few, cylindrical like the spur of the cock, or the horns of sheep.

I. cor. *spinosa*—of this kind, only one case has been recorded.

I. cor. *ungulata*, like the claw or spur of the cock.

I. cor. *arietena*, resembles the ram's horn.

3. Icthyosis *pellagra*.—The skin is withered, wrinkled, and covered with scales. The disease is accompanied by prostration of strength, and derangement of the intellectual faculties.

I. pel. *vulgaris*, in which the skin is affected, without assuming any particular figure.

I. pel. *orbicularis*, the scales are arranged in patches, as in

Herpes furfuraceus circinatus, and is less affected by the seasons than the preceding variety.

The causes leading to the production of Icthyosis, have not been developed with any degree of precision. The Icthyosis pellagra being endemic among the inhabitants of the Milanese, and affecting more especially the labouring classes during the summer months, the humidity of a marshy and irrigated country, exposure to the rays of an ardent sun, and an unwholesome diet, have been considered by some writers, as generating this distressing disease.

The treatment, except of the Icthyosis pellagra, does not appear to have attracted the attention of medical men. In the Icthyosis pellagra, the chief reliance has been in a change of air and improved diet, and the free use of tepid baths: Albera extols cold water drunken freely.

SYPHILIS.

1.-Syphilis Pustulosa, appears in pustules, which, on drying, leave red or copper coloured spots.

S. pust. *squamosa vel compressa*, is scaly, and of a flattened form: the edges hard, elevated, and of a red colour: it is by the copper colour that it is to be distinguished from herpes.

S. pust. *crustacea*. This is a severer form; it assumes the aspect of lepra, whence the name of lepra venerea. The pustules vary in form, volume, extent and colour of their crusts; presenting a hideous appearance: they give rise to large suppurations. When on the forehead, they constitute the corona veneris.

S. pust. *racemiformis*, not flattened, having neither scales nor crusts: hard, round, and of the size of a pea, oblong or oval; the surfaces rough like chagreen.

S. pust. *cerasiformis*, appears in minute, dark coloured elevations, like cedar berries, grouped or distinct.

S. pust. *lentiformis*, of a brown colour, and flattened like lentils.

S. pust. *miliaris*, rises in small pimples, having a small reddish areola of a copper colour.

S. pust. *urticata*, resembles the stinging of nettles.

S. pust. *serpiginosa*, often figured like circles, or letters. The divisions and descriptions are very unsatisfactory. It is true, the expressions of ALIBERT are not given at full length, yet every thing treated, appertaining to the several varieties, has been extracted: and what adds to the want of precision, is the acknowledgment on his part, that many eruptions possessing the character which he considers as syphilitic, often appear after claps, or even when there can be no suspicion of a venereal taint. Seven cases in illustration.

2. Syphilis vegetans.—This comprehends the various forms of venereal warts, or excrescences.

Syphil. veget. *frambœsia.*
cauliflora.
crista galli.
porriformis.
verrucosa.
condyloma. Four cases in illustration.

3. Syphilis exulcerans, appears on the integuments, in the form of deep excavated ulcers, as if scooped out with a sharp instrument; the edges red and callous; in figure round, oblong, or triangular: they affect more especially the mucous membrane, and very frequently the legs. Three varieties.

S. e. *serpiginosa.* This is a superficial ulcer, extending over and destroying a great portion of skin.

S. e. *persistens.* This is insulated and very deep; destroying the integuments down to the bone.

S. e. *fissatu*, appears in fissures or chops, and is generally seen about the anus.

On the phenomena which characterize the progress of syphilis.

The observations are confined to the syphilitic affections of the skin. In general the syphilitic pustules appear in scattered spots of the size of a pea. They gradually increase in volume, and become the base of projecting pyramidal or conical scabs, blended with sordid phagedenic ulcers. This eruption is preceded by erratic pains in the limbs. It often resembles the petechiæ of scurvy, and soon rises above the level of the skin. These eminences become covered with scabs of irregular figure, and on the desquamation of these scabs there is a deep excavation of the skin. In this stage the patient is exempt from pruritus, sleeps well, and enjoys a good appetite.

Sometimes the eruption resembles herpes, and so closely that the practitioner may be easily mistaken, unless guided by the sore throat, ulceration of the tonsils, and chancres, which declare the true venereal character. They may be distinguished by the copper colour, the well defined border, more elevated margin than in herpes, and by the absence of violent itching.

The eruption occasionally appears in tubercles gradually increasing in size, preserving the natural colour of the skin, or assuming a brown or reddish hue, resembling small cherries or cedar berries.

Often it is characterized by small pustules flattened like lentils, or acuminated with an inflammatory base like miliary eruptions, or it is vesicular like the itch. Many patients appear as if stung with nettles; the eruption is at first of a bright red, but becomes paler with age, and is frequently preceded by fever.

But the most severe and obstinate form of syphilis affecting the skin, is a serpiginous eruption that spreads over the whole surface in long spirals or entire circles. These frequently degenerate into ulcers that baffle all the efforts of the healing art, to the disappointment of the patient and the practitioner.

In some persons, the skin presents a number of violet spots, evanescent and not elevated. Cold seems to develop them, and they disappear when the patient is warm. They are accompanied often by nocturnal pains and exotoses, which ALIBERT considers as sufficiently proving their syphilitic origin.

Of the excrescences we discover no information additional to that already given, unless it be to state, that besides the perineum, anus, and genitals usually noticed as their seat, ALIBERT has observed such excrescences in the mouth.

In the further description he gives of syphilitic eruptions, we perceive nothing to add to what we have already extracted, unless it is to notice the remark made by ALIBERT, that syphilis is frequently complicated with scurvy. He passes unnoticed its combination with scrofula, to which, according to him, it bears so strong a resemblance.

He is an advocate of the dormant existence of syphilis, and he thus explains, that after repeated courses of mercury the disease may be developed and successfully treated. When on the diagnosis, he states that it may be distinguished from scrofula, that the latter rarely affects the genitals, nor the inguinal glands; that the eruptions are less diversified, and more irregular in appearance, the ulcers not so deep, the excrescences not so distinct, and that the pains in the bones are unknown in scrofula.

In support of the opinion that the disease may be communicated to the offspring in the act of generation, he cites the case of a child whose father was infected, in whom the virus did not show itself until the child was ten years old, when it destroyed the septum narium; likewise the case of a girl aged thirteen, born of an infected mother.

Nearly all these complaints, he says, yield to the power of mercury. Of the various preparations of this metal, he prefers the oxymuriate, and states, that when this salt is properly administered, especially in conjunction with powerful sudorifics, it rarely happens that the most inveterate symptoms do not vanish. He remarks that we must not relax in its use, or be deterred by the apparent obstinacy of the disease. The various symptoms may be aggravated at first, though the remedy has been most methodically administered. But this apparent aggravation is only temporary; it is produced by the action of the mercury upon the irritability of the system; and if this action occasionally exasperates the disease, it generally finishes by destroying its violence.

Mild nutriment, suitable repose, or moderate exercise, change of air, and an exemption from all violent emotions, may materially contribute to the rapidity of the cure. He found great benefit from the exhibition of opium with mercury; it served to moderate the activity without impairing the virtues of the mineral. When the irritability of the stomach prevented the exhibition of mercury by the mouth, he found mercurial enemata very beneficial, and on some occasions sufficient to effect the cure. He lays down no particular rules for the mercurial treatment, the quantity to be administered depending on the idiosyncracy of the patient, and the inveteracy of the disease. He, however, avoids deep salivations, pushing the remedy until it excites some degree of fever.

This direction is somewhat at variance with the aphorisms expressed in a succeeding section, where, speaking of the efficacy of mercurial inunctions, he states, "It is a fact fully established at the Hospital of St. Louis, and which ought to be recorded in every treatise on the subject, that this incomparable remedy never acts more effectually upon the disease, than when it spares the constitution, and excites no disturbance in the animal functions."

SCROFULA.

1. Scrofula vulgaris, characterized by swelling, hardness, and prominence of the lymphatic glands, especially at the angles of the lower jaw; by the tumefaction of the upper lip; by the enlargement and caries of the joints, by scales, scabs and ulcerations of the skin, by soft excrescences. Five varieties.

S. v. *glandulosa.* The cervical and axillary glands are particularly prone to enlargement in the scrofulous diathesis, and constitute so many prominences under the skin. Sometimes they remain stationary, sometimes they suppurate and form abscesses of more or less extent. Occasionally they become cancerous.

S. v. *articularis.* The hands, feet, knees, and hip, are the more usual seats of the disease. It affects principally those under puberty, though it is occasionally seen in elderly persons. It holds the next rank in frequency.

S. v. *cutanea.* When scrofula attacks the skin, it resembles, in many respects, herpes and syphilis, presenting a variety of forms. ALIBERT considers himself as the first who has observed one of these subvarieties. He describes it as rendering the skin very porous, then there appears a yellow spot, succeeded by a thin faint cicatrix, of the same extent, and of a pearly hue. The skin often becomes chopped and scaly, as in herpes; sometimes an ichor exhales that concretes into thick scabs of a greenish or yellow colour. On some occasions, the pustules resemble those of syphilis, but are less prominent. These pustules are for the most part arranged in circles, whose areas are continually increasing, whence he denominates them centrifugal; and we daily see individuals greatly disfigured by the destruction of the nose and lips.

S. v. *cellulosa,* appears on the lower extremities, or on any other part of the body, in moist excrescences resembling raspberries or mushrooms, as in syphilis or herpes tuberculosa. To this variety may be referred certain extraordinary accumulations of fat.

S. v. *vasculosa.* Sometimes the skin, particularly of the face, is the seat of tubercula hæmatodes. They are indolent to the touch, but when imprudently irritated, they become cancerous. ALIBERT states that he treated one successfully by the actual cautery.

Scrofula is a very common disease in cities, or wherever there is a crowded population. It often attacks persons of a robust form, and who, from the freshness of complexion and general plumpness, might be supposed always to enjoy uninterrupted good health. When examined critically, the complexion will be found not to be deep or permanent. The sclerotica has a bluish tint; the pupil is dilated; the hair soft and light coloured. Persons affected with scrofula frequently display an extraordinary precocity, undaunted courage, and, when not properly disciplined, are prone to violent fits of passion. In scrofulous persons, ALIBERT has observed an acescent odour, like that of fresh meat in the market. Seven cases in illustration.

2. Scrofula endemica appears, like the preceding species, in tumefactions of the glands, in scales, scabs, ulcers, and excrescences, but accompanied by a sallow dirty colour of the skin, atrophy, and a debasement of all the intellectual faculties. Three varieties.

S. e. *rheumatica* is most frequent in moist, unhealthy situations, on the borders of the sea, lakes and marshes. It attacks principally boatmen, fishermen, and shepherds, who sleep in the open air.

S. e. *rachetica*. Black and carious teeth, the second set imperfect; curvature of the spine, swelling of the joints, mark this form.

S. e. *cretinica*, accompanied by an enlargement of the thyroid gland. Six cases in illustration.

The causes leading to the production of scrofula, are, cold combined with moisture, want of cleanliness, long confinement in unventilated apartments, crude and indigestible food. In the opinion of ALIBERT, it is frequently hereditary; but the most fruitful source of the disease he pronounces to be the prevalence of a syphilitic taint, which he thinks may be propagated through several generations. He remarks that the disease is most frequently developed early in the spring, abates or disappears during the warmth of summer, and is aggravated or renewed on the approach of winter.

For the cure he recommends warm clothing, or suitable diet, consisting of food that is easy of digestion, active exercise in the open air, frequent ablutions, and bathing, the exhibition of tonics, particularly the preparations of iron; and from its alliance to syphilis, the oxymuriate of mercury has been with him a favourite remedy. Frictions, various medicated plasters, supposed to excite the action of the absorbents, issues, setons, and burning with moxa, are likewise extolled. The excision of tumours, and the amputation of scrofulous limbs, have been practised with notable advantage.

ARTICLE IX.—"*Thoughts on Medical Education, and a Plan for its Improvement, addressed to the Council of the University of London.* Dictu Necessaria, Plin. London, 1826."

"*Projet de Loi présenté aux Chambres dans la Séance du 14 Fevrier, 1825, par S. E. le Ministre de l'Interieur, sur les Ecoles Secondaires de Medicine, les Chambres de discipline et les Eaux minerales artificielles.*"

The remark so frequently made on the comparative neglect of the science of education in a general acceptation, while other sciences and arts boast of so many cultivators, applies with full force to Medical Education. Among the numerous tomes which are annually sent forth to the public, on all the varieties of disease, and their methods of treatment, how few, if any, exhibit, on the part of their authors, a desire to establish rules and principles for the guidance of a youth who proposes to study medicine. If we except some vague hints in an occasional discourse, introductory or valedictory, pronounced by a professor in a Medical College, or an oration, delivered before a Medical Society, we meet with nothing, absolutely nothing to guide the beginner in a course, on the successful prosecution of which, depends—we will not say his own fame, that is of minor value, but the comfort, health, and lives of so many of his fellow creatures.

The capital error consists in supposing that a youth, who begins the study of medicine, brings with him a mind previously trained to habits of thinking, which he has but to exercise on the book put into his hands by the physician, under whose superintendence he is placed. Unreasonable as is such a supposition, when we reflect on the age of the student, even though his opportunities for general instruction may have been previously great, we are bound, in common charity, to admit of its being generally entertained, since no other excuse can be validly adduced in justification of the slight ties which bind together pupil and preceptor. The former is left to ramble over a few works of equivocal value, though, perhaps, of some reputation, while the latter contents himself with an occasional question, the bearing of which is often not perceived. More usually some book on Materia Medica is presented to the student, and he is at once bewildered by the conflecting testimonies adduced respecting the effects of a drug, which, after all, he often does not see for months, or even years. Having gone through this, as the phrase is, he begins to read on, not to learn, anatomy, and as in the country, the actual bodily illustrations of this branch are few and imperfect, he soon proclaims it to be a dry study, and the reading about it to be a great bore. Thus he is hurried, or left himself, to ramble from subject to subject, gleaning very imperfect notions of each one, and rarely taught the harmonious connexion, and philosophical concordance among them all. No wonder, then, that conscious as he is of being deficient in the principles of the healing art, he should readily assent, or, at the most, timorously object to the aspersions cast on it by every captious pretender to a knowledge of what he is pleased to call the exact sciences. Now we must needs think, that the much more natural plan, that conformable to nature and enforced by the closest analogies, would be to point out to the beginning student, the extensive field which he has to go over, the various land marks that are first to arrest his attention, the thickets he is to avoid, what path to follow, where flowers and fruit, and where thorns will meet his eye. Apprize him first of the nobleness of the science, among the votaries of which he is about to enlist himself. Prepare him for arduous study, and a weary round of perilous, though godlike duty, by the perusal of the biographies of the distinguished physicians and medical teachers, who, at first, unknowing and unknown, chilled by poverty, and harassed by envy, did, after all, rise to the heights of fame, honour, and imperishable renown. His affections thus enlisted, we may next acquaint him with the duties and qualifications of a physician, and with the arguments derived from man in health and in a state of nature, in favour of certainty in medicine, and, finally, warn him of the necessity of close and continued observation, and of the impediments which have retarded the advancement of medicine. But, alas! how few physicians, even hint at, much more insist on their students going through this course, of what may be termed preliminary study. Yet, what more encouraging to the young mind than the biographies of such men as PARE, BAGLIVI, SYDENHAM, Boerhaave and Cullen; or more necessary than an attentive perusal of Gregory's Lectures on the Duties and Qualifications of a Physician, or more instructive than the greater part of the first book of Baglivi's works, in which the various obstacles to sound medical philosophy are detailed in such a masterly manner. How few of our medical brethren can exhibit on the shelves of their library, Cabanis on Certainty in Medicine, though it has been, thanks to the industry of an intelligent and estimable friend, for some years in an English dress.

We cease to be surprised that a youth, who, after a desultory reading for one or two years in the country, goes to a city to attend the lectures at some Medical College, should be so little prepared to appreciate the value and necessity of sound logic, and adherence to principles: and we pardon the lecturer, who, conscious of the imperfect intellectual training of the youthful assembly by which he is surrounded, usually prefers being the echo of popular opinions and received modes of practice, to an exposition of the philosophical principles of the science of medicine, and ample commentaries on these principles or institutes. Nor can we harshly censure, though we must, nevertheless, grieve at the disinclination too frequently manifested, by those who have the direction of Collegiate Instruction in medicine, to multiply within the same sphere, the means of learning, by increasing the number of branches to be taught. When we have urged the necessity of teaching the philosophy of the subject, concurrently with the facts and details on which it is founded, we have been told, and, as we believe, in a spirit of sincerity and disinterestedness, that the young men are not, in general, prepared by their preliminary education or habits of thought, for duly understanding and appreciating such an extension of medical education. From this view of the question we would be led to consider the evil as truly of a radical nature, and beyond the remedial control of medical teachers and physicians. On a fuller, and more practical system of elementary education we are to rest our hopes—to good Academies and Universities for teaching the languages, philosophy and the belles lettres, we must look as the nurseries, from which our Medical Colleges are to be supplied with young men, prepared for being benefitted by, and even exacting, the most ample systems of medical instruction. But, is the actual evil of such magnitude, as some, in their fears, have suggested? Is the deficiency of mental endowments so great or general in the youths, who, either at their own desire, or, at the suggestion of their parents or guardians, offer themselves as students of medicine, that the physician has no power of option? Our belief is negative to these questions;—on the contrary, we are of opinion that the numbers would still be great, if, not only a good moral character, but also the possession of certain attainments, were insisted on as a prerequisite for a youth's being admitted a student of medicine, in the office of a practising physician. As regards a Collegiate course in medicine, we would ask, does it argue sound policy, or a knowledge of human nature, to keep, or bring down the system of Medical Education to a level with the real or presumed ignorance or indolence of the mass of the population, rather than raise the standard of proficiency, and, thereby, conduce to a generous emulation, a thirst for honourable distinction in the more industrious and enlightened, whose numbers, it may be added, will always increase under this latter order of things. Why should persons give into an error, the like of which, in legislation, meets with their unqualified censure, as when they hear the advocates of despotism and intolerance, contend that a people are not to be placed under a government which insures to them civil and religious rights, until they shall be educated and enlightened enough to be able to appreciate fully, the blessings of freedom.

But, before we venture to propose innovations at home, prudence requires of us to learn what has been done abroad; and to know what is to serve as an example worthy of imitation, and what as an evil to be avoided. That our readers may see we have not been inattentive to their interests in this matter, we shall lay before them, with all suitable conciseness, the schemes of medical instruction pursued in Germany, France, Italy, and Great Britain and Ireland, and the requisites for graduation in the medical schools of those countries; not omitting occasional references to the practice pursued among ourselves.

First, then, *of the preliminary qualifications to be possessed by a youth, who desires to study medicine.*

In Austria, before a youth can be admitted as a student of medicine in a University, it is necessary that the candidate should lay before the director of Medical study, certificates of his having studied Philosophy for three years in a Lyceum. Under Philosophy are comprehended the Latin and Greek languages, History, Mathematics, Natural and Moral Philosophy, and Religion.

In the Protestant Universities of Germany, as in that of Gottingen, no questions are asked, nor requisites demanded of the youth who wishes to study medicine.

In France, he must be regularly enrolled in one of three Medical Faculties of that country, viz: Paris, Strasburgh, Montpelier: but prior to this act of enrolment, he is required to exhibit, 1. a register of his birth; 2. a certificate of good conduct from the mayor of his arrondissement, and signed by the subprefect of the department; 3. a certificate of his having gone through a complete course of study in one of the Lyceums. If these cannot be furnished, the applicant is to be subjected to a preliminary examination, for the purpose of ascertaining whether he has the indispensable qualifications for the study of the healing art: this point satisfactorily determined, he receives a note, on presenting which, he is admitted to have his name enrolled.

In England, we are told by the author of the "Thoughts," &c. that,

> "When a parent determines to educate his son for the practice of medicine, the boy is taken from school and, without any other preliminary education than a very slender proficiency in the Latin language, perhaps a superficial knowledge of Greek and of French, and a very imperfect acquaintance with English, is bound apprentice to a general practitioner." p. 3.

In the United States, it is the custom for a youth at eighteen or nineteen years of age, to commence the study of medicine under a general practitioner; that is, with one who, like all American physicians out of the cities, practises physic, surgery and midwifery, and who is his own apothecary. It is seldom that any questions are asked of the youthful applicant, respecting his preliminary education; or, if asked, they very rarely influence the conduct of the physician. Hence, not only are they admitted as students, who have received a regular academical education, but others, who have become weary of agriculture, or who have found attendance in a shop or store, too irksome.

Of the qualifications demanded of a student of medicine, before he can become a candidate for a degree; and of the examinations to be *undergone, before he is authorized to practise the various branches of medicine.*

In the Austrian empire, there are two German Universities, Vienna and Prague; and five Lyceums, viz: Lemburg, Gratz, Olmutz, Klagenfurt and Lentz. The difference between the Universities and the Lyceums, so far as concerns medical study, is, that surgery alone is taught in the latter, both medicine and surgery in the former.

The school year in Vienna begins with November, and ends with August. The course of medical study extends to five years, and comprehends lectures on Introduction to Medico-Chirurgical study, Natural History, Anatomy, Botany, Physiology, General Chemistry, General Pathology and Therapeutics, Midwifery, Materia Medica, General and Special Pathology of External diseases, Ophthalmalogy, Demonstration of Surgical Instruments and Bandages, Special Therapeutics of Internal diseases, Clinic for Internal diseases, Veterinary Medicine, Medical Jurisprudence, and Medical Police.

These branches are taught in the order of time, as above enumerated: the students are not required to attend any of them two years, except those on Special Therapeutics for Internal diseases, and Clinic for Internal diseases, in the fourth and fifth years of the medical course.

The students of Medicine are in Vienna distinguished from the students of Surgery.

The former are not obliged to attend the lectures on Practical Surgery, and on Practical Ophthalmalogy.

The extraordinary lectures, as they are accounted, are those on the diseases of Women and Children, Philosophical and Physical knowledge necessary for Surgeons, Duties of those who attend the sick. These last are delivered on Sunday evenings. The lectures on Physiology, Materia Medica, General Pathology and Therapeutics, and Special Therapeutics for Internal diseases, are given in Latin; the others are in German. The students of Practical Anatomy carry on their dissections in the University. Besides the public lectures, several of the professors in the University of Vienna give occasional *Privatissima.* By the special order of government, foreigners only are allowed to take advantage of these private courses. The number of students admitted to a *Privatissimum*, is generally six.

Examinations. In all the public courses of medicine and surgery, an examination of the enrolled students is held by the several professors every half year, in presence of one or more of the other office bearers of the University.

The candidate, prior to being admitted to examination for a degree in medicine, must produce certificates of having acquitted himself respectably in three semestral examinations, of having completed his fifth year of study, and of having publicly treated, within the last year, two patients in the clinic for internal diseases; the cases of which patients, he must at the same time present to the faculty, written in Latin.

He who aspires to the rank of *Magsister Chirurgiæ*, a rank analogous to that of member of one of the British colleges of surgeons, is obliged to follow nearly the same course of study, as the candidate for a degree in medicine.

The case is different, in regard to the common, civil and country surgeons, as they are called; they study for only two years; and so far from being required, are scarcely admitted to attend the lectures on Therapeutics and the Clinic, or the lectures on Physiology, Materia Medica, and General Pathology and Therapeutics. Neither in Austria, nor in any part of Germany, is this class of surgeons respectable: they are inferior to the *Officiers de Santé* of France, and execute at once, the duties of barbers and surgeons.

One of the public examinations for the degree of Master in Surgery, consists in the performance of two operations on the dead body: the operations are determined by lot. The candidate describes the surgical anatomy of the parts, lays down the indications for the operations, performs them upon the dead body which is before him, and applies the proper bandages.

Degrees are granted by the University of Vienna, in Ophthalmalogy: Doctors in Medicine or Surgery are considered as having taken this degree; but no one else can publicly practice as an oculist in the Austrian states, who has not attended the lectures of the Professor of Ophthalmalogy, and undergone an examination by him on the diseases of the eye.

The state of the profession throughout Austria, corresponds exactly with the provision made by the government for medical and surgical education. The physicians are distinguished for their extensive and practical knowledge. Surgery, on the other hand, seems to languish.

In Vienna there is an Institution called the Josephine Academy, completely separated from all other schools. It is under the direction of the minister of war; out of whose treasury, the salaries of the professors, and all other expenses are defrayed. The number of pupils admitted, is 200; of whom, fifty receive a monthly allowance from the Academy. They are required to attend but two years; after which, they undergo a severe examination, are promoted to the degree of Doctor in Surgery, and are appointed to a regiment. The branches taught in the Academy, are Anatomy and Physiology by one professor, Chemistry and Botany by another: Therapeutics, Surgery and Midwifery, have each a professor.

In the University of Gottingen, as in all the Protestant Universities of Germany, there are no fixed regulations, in regard to the course of study to be pursued, to entitle the student to a diploma. All that is required, is, that the candidate should be able to undergo his examination. No questions are asked, respecting the duration of his studies, or the University where he has acquired his knowledge; but, in general, it requires three or four years previous study, to be able to pass the examination, which is strict and fair. It embraces all parts of Theoretical and Practical Medicine, including Botany and Chemistry, and a thesis in Latin is subsequently defended before the University.

The lectures delivered, are, 1. on the Practice of Medicine, 2. Medical Surgery, 3. Medical Clinic, 4. Physiology, 5. Natural History, 6. Surgery, 7. Diseases of the Eye, 8. Surgical Clinic, 9. Neurology, 10. Osteology and Syndesmology, 11. Anatomical Examinations, 12. Midwifery, 13. Medical Jurisprudence, 14. Special Pathology, 15. Special Therapeutics, 16. Chemistry, and General Botany, 18. Botanical Excursions, 19. Chemistry, 20. Analytic Chemistry, 21. Mineralogy, 22. Geology.

The above twenty-two courses are taught by nine professors.

Besides the public lectures, the professors are in the habit of giving private instructions to one or more pupils: these are called *Privatissima*.

The terms of study are called Semestres. The one commences on the 26th of April, and lasts about five months: the other some time in October.

Medical Jurisprudence forms an indispensable part of study in the University of Vienna, and certain extraordinary means of promoting an accurate knowledge of this branch of medical science have been adopted by the government, which are well worthy of imitation. These consist in the publication of a code of regulations, by which all medico-judiciary inspections are to be conducted throughout the empire, and reports to be drawn up; and in the performance of inspections publicly, upon the dead bodies which are found in suspicious circumstances; and which, not being at first recognized, are carried to the dead room of the General Hospital. Due notice is given to the students at what hour such inspections are to take place; and they have thus an opportunity of seeing those regulations put in practice, which they themselves will one day be called to fulfil.*

In France, there are two classes of persons practising the healing art, both duly authorized and acknowledged by law. The first consists of Doctors in Medicine and Surgery; the second of Health Officers, (*Officiers de Santé.*)

A study of four years in one of the schools of Medicine, the honorarium, the expenses of study, an examination and reception, are the indispensable conditions exacted of every person desirous to become a Physician.

Of Inscriptions or *Certificates.* The pupils are to be enrolled or registered at each quarter of the year: for this purpose, they write in a book, kept and ruled by the director, their names, family, and baptismal age, birth place, the number of the inscription they actually take, the date of the day and year, closed by their signature. When the students desire to make use of their inscriptions, a certified copy is presented to them by the office of the administration of the School, (College.)

Of Examinations. The students who wish to undergo the examinations, are to address themselves by letter to the school in which they wish to graduate; and in support of their claim, to exhibit the certified copies of their inscriptions, taken every three months for four years, either in the school, or in any other similarly governed; this request, which is to be renewed at each examination, is to be presented at the earliest meeting of the government of the school; which, after deliberation, replies and indicates the day and hour, on which the examination is to take place. The examinations are to be opened in the first and third quarters of each year: those of the first quarter will be more especially on, 1. Anatomy and Physiology, 2. Pathology and Nosology, 3. Materia Medica, Chemistry and Pharmacy: and the examinations of the third quarter on Hygeine and Legal Medicine, and on Clinic and Thesis. Each examination may be open for several candidates at a time. In anatomy, materia medica, and operations, the examinations are to be accompanied by practical exercises and demonstrations, to be made by the candidate. The examination on anatomy and physiology, shall be conducted at two sittings. In the first, the candidate shall repair to the school, and make an anatomical preparation or dissection, after it has been demanded of him. In the next sitting, he shall reply to the anatomical and physiological questions proposed to him; he shall demonstrate on the skeleton. the parts in osteology required of him.

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* For the account of the German Medical Schools, we are indebted to the London Quarterly Journal of Foreign Medicine and Surgery.

The examination on the clinic, shall also be in two sittings. It shall consist of a series of questions proposed in advance, and drawn by lot, and which are to relate to some practical cases determined and known, and to which the candidate shall be required to reply in Latin and in writing. To this effect he is to repair to the school three hours at least, before the opening of the examination, and prepare his answer, which he shall write down in private and alone. At the appointed hour for the meeting of the examiners, he shall reply, *viva voce* and in Latin, to the interrogations made him respecting his written answer. In the clinical examination for doctor in medicine, there shall be proposed a greater number of questions on practical medicine, and a few on surgery. In the examinations for doctor in surgery, it shall run chiefly on questions of practical surgery. The candidate shall, moreover, perform operations relative to the diseases, as well of the soft, as the hard parts, on which he is interrogated; he shall also reply to some questions on internal clinic.

In the examination on materia medica, chemistry and pharmacy, the candidate shall exhibit the medicinal substances about which he may be interrogated.

The examination on pathology, internal and external, shall be conducted in Latin, and shall occupy but one sitting; as also the examination on hygeine, and legal medicine, and medical jurisprudence, in which it shall be required of the candidate to prepare the formula of a report on a point to be indicated to him.

There shall be three examiners at the five examinations, and five examiners on the thesis, with a president. The other members of the school (college) shall, however, be invited to the examination on the practice and on the thesis; and in favour of those who are present at these meetings, there shall be established a right of precedence.

The examiners shall proceed to vote on the admission of the candidate, with white and black balls. When their decision is made, they shall prepare their report immediately afterwards. This report shall be signed by each of them. The school will deliberate on its contents, and pronounce on the reception or rejection of the candidate.

Before defending his thesis, the candidate shall deposit the manuscript at the office of the administration of the college, which, at the next session, shall appoint a commissioner to examine it. On his report made in writing, explanatory and signed, the college will admit or reject the thesis.

The commissioner appointed by the school, for the examination of the manuscript thesis, shall superintend the printing of it, which shall always be in the quarto form; he shall sign the copies. It cannot be distributed without the signature of the professor, who shall attest that the formalities prescribed by the school have been complied with. The examinations are public. Students in medicine and surgery, of the army, who shall prove that they have followed the course of medicine established in the military and naval hospitals for instruction, may make each year of study so engaged, pass for one in the special or regular school.

Pupils who can prove that they have followed the practice of the great civil hospitals, in which there is an established course of medical instruction, or the lectures established by different societies and medical associations formed in the departments, may equally be dispensed from following the four years' course in the schools. But they shall be bound to show or exhibit testimonials of their assiduity in the hospitals, or places of instruction, during six years, and to defray the expense of inscriptions.

Of health officers, (officiers de santé.) In the capital town of each department, there shall be a jury composed of two doctors in medicine or surgery, and a commissioner, the last of whom shall be taken from the professors of one of the schools of medicine.

The jury shall annually examine candidates. The examinations are to be three in number. The candidates are to present certificates in due form of their period of study in the schools, or of practice in the hospitals, or under some physician who is a graduate. In the examination on anatomy, the candidates shall, at least, show on the skeleton the parts on which they may be questioned. In the examination on surgery, they shall exhibit the pocket instruments in use; they are also to apply bandages and dressings, and go through the manœuvres of accouchement.

In the third examination, there shall be proposed a question on generally received practice, to which a reply must be furnished in writing. The candidate is then to reply to the interrogations made to him by the jury.

Of midwives. The female students of midwifery shall be subjected to an examination by the juries, in which they shall answer the questions proposed to them, and perform on the phantom or machine the simple operations of midwifery.

Those female students of midwifery, who present themselves to the schools of medicine for a diploma, shall be subjected to two examinations, and shall be presumed to have attended, two years at least, the lectures of the Hospice of Maternity.

The above regulations for medical education in France, have been in force since the revolution. Before that time, there was a class of surgeons educated and authorized to practise by the colleges of surgery, and doctors in medicine were graduated in the nine faculties of medicine. Soon after the dissolution of these colleges and faculties, the republic found it necessary to have additional schools and facilities for supplying the armies with surgeons, and hence the law of 1794, providing for the education of health officers (*officiers de santé*) for the service of the hospitals, and more especially the military hospitals and the navy. The ample provisions for the instruction of youth in medicine and surgery, and the examinations preparatory to their being graduated as physicians and surgeons, by the laws of 1803, ought to have removed all excuse for continuing this secondary class or *officiers de santé*, and have abolished a division, unnatural and repugnant to the character of the healing art, since there is but one medical science, and no other grades ought to be allowed, than those of talent and readiness to treat diseases skilfully.

The law, the purport of which is at the head of this article, is intended to obviate some of the inconveniences and evils growing out of the above-mentioned order of things. It abolishes the medical juries; it institutes twenty secondary schools, in which a course of instruction is to be given to those who propose becoming *officiers de santé*, midwives, or apothecaries of the second class, and it provides for their examinations, and authorizations to practise. Students may receive the degree of health officer, after four years' study in one of these secondary schools; and of druggist of the second class, after two years of study in a similar institution, and five years' apprenticeship under a druggist and apothecary.

An amendment to this law, gives it a still more beneficial tendency. By it, ten to fifteen secondary schools are to be organized, in which students are to receive primary or elementary medical instruction. Their education is then to be completed in one of the three faculties, in which three years of previous study at a secondary school, will be equivalent to two years of *inscriptions*; and having gone through the remaining period of two years, they are entitled to be candidates for a degree. Those who shall have been graduated bachelor of arts, or bachelor of sciences, may obtain the title of *doctor* of medicine; the others can only be *licentiates*. But all shall undergo the same examinations, and give proofs of the same knowledge. The *licentiates* are to have the same privilege with the doctors, of practising their profession in any part of France.

The chambers of discipline, authorized by this law in each department, are to consist of graduates in medicine or surgery, and of apothecaries of the first class. The prefect of the department, and the mayor of the town, are by right, entitled to seats in the chamber, and the former, or, in his absence, the latter, is to be regarded as president. The functions of the chambers of discipline, are, to reprimand and censure every physician, surgeon or apothecary, who has committed any misdemeanour, tending to deprive the medical profession of public esteem and confidence. The chambers are also to apprize the proper tribunals of such acts, as shall give rise to judicial interference and inquiries according to law; but they have not by any means the right to interfere in any theoretical discussions. They are to visit, or direct visits to be made to the shops of apothecaries and herbalists, and all other places in which are made, or vended, medicinal compounds or preparations.

They shall be entrusted with the duty of examining the qualifications of midwives, in those departments in which there is neither a medical faculty nor a secondary school in medicine.

In ITALY, the laws, fixing the period of study and the branches to be taught, are various as the divisions of the Peninsula. At *Pavia*, the medical faculty of the university consists of fifteen professors, who teach the following branches. 1. Clinical Medicine and General Anatomy; 2. Clinical Surgery and the Institutes of Surgery; 3. Clinical Medicine for Surgeons; 4. Diseases of the Eyes; 5. Midwifery; 6. Anatomy; 7. Physiology; 8. Pathology and Materia Medica; 9. Medical Jurisprudence; 10. Medical Part of Surgery for the country surgeons; 11. Natural History; 12. Chemistry; 13. Botany; 14. Veterinary Medicine. The celebrated Scarpa, director of the faculty, is not included in the above list. Complaints are made that the chair of comparative anatomy has been abolished. Five years of study are required before the doctorate in medicine can be obtained. The students are examined verbally, and write a thesis.

At *Padua*, the medical faculty is composed of fifteen persons, two of whom, the director and the dean, are not professors. The thirteen branches taught are, 1. Special Therapeutics [illegible] Clinical Medicine; 2. Clinical Surgery and External Pathology; 3. Clinical Medicine for Surgeons; 4. Anatomy; 5. Physiology; 6. Internal Pathology and Materia Medica; 7. Medical Jurisprudence and Medical Police; 8. Midwifery; 9. Ophthalmalogy; 10. Botany; 11. Chemistry; 12. Natural History; 13. Comparative Anatomy and the Veterinary Art. Nine of the Professors have Adjuncts.

The period of study is for five years, and the division of subjects is as follows:

In Medicine.

First year. Human Anatomy, and Elements of Medicine and Surgery, (in Latin,) Natural History, Botany.

Second year. Anatomy and Physiology, (in Latin,) General, Animal, and Pharmaceutical Chemistry.

Third year. General Therapeutics and Materia Medica, (in Latin,) General Pathology, Elements of Surgery, Midwifery.

Fourth year. Clinical Medicine, Special Therapeutics in Latin, Veterinary Surgery.

Fifth year. Continuation of the first courses of last year, Medical Jurisprudence, Medical Police, Diseases of the Eye, &c.

In Surgery.

The course of instruction for students in surgery is the same as the above for the first three years.

Fourth year. Practical Surgery, Veterinary Surgery.

Fifth year. Practical Surgery, Medical Jurisprudence, Diseases of the Eye, Medical Police.

Provincial Surgeons.

First year. Anatomy, Physiology, Pathology, General Therapeutics, Materia Medica, and the Writing of Receipts.

Second year. Clinical Surgery, Internal Diseases, Operative Surgery, Medical Jurisprudence, Midwifery, Veterinary Surgery.

Apothecaries.

One year. Chemistry, Natural History, Botany.

Veterinary Surgeons.

First and second year. Physiology, Pathology and General Therapeutics, Theory of Agriculture, Theoretical and Practical Veterinary Surgery, Materia Medica and Writing of Receipts.

At *Turin*, the medical faculty is composed of eleven professors, six for medicine, and five for surgery.

At *Genoa*, the faculty of medicine consists of nine professors. There are three grades of medical degrees; viz. bachelor, licentiate, and doctor, granted by the university of Genoa. The course of the doctorate is of five years. Each faculty has a college of twelve doctors, who examine the candidates.

At *Bologna*, the medical faculty consists of twelve chairs, the nature of which is as follows: 1. Physiology; 2. Human Anatomy; 3. Comparative Anatomy and the preparation of parts connected with it; 4. Special Therapeutics and Internal Clinic; 5. Clinical

Surgery; 6. Pathology and Medical Jurisprudence; 7. Materia Medica; 8. Institutes of Surgery and Midwifery; 9. Natural History; 10. Botany; 11. Chemistry; 12. Pharmaceutical Chemistry.

The following is the plan of medical study prescribed by the laws of the university.

In Medicine.

FIRST YEAR. Natural History, Botany, General Chemistry, Anatomy.

SECOND YEAR. Anatomy, Physiology, Comparative Anatomy, Institutes of Surgery.

THIRD YEAR. Pathology, Clinical Medicine (as spectators,) Materia Medica, Pharmaceutical Chemistry.

FOURTH YEAR. Pathology, Clinical Medicine (as practitioners,) Medical Jurisprudence, Midwifery, Veterinary Surgery.

In Surgery.

FIRST YEAR. The same as in medicine, with the addition of Pharmaceutical Chemistry.

SECOND YEAR. Same as in medicine.

THIRD YEAR. Institutes of Surgery, Clinical Surgery (as spectators,) Materia Medica, Dissections and Operative Surgery.

FOURTH YEAR. Clinical Surgery, (as operators,) Dissections and Operative Surgery on the dead body, Legal Medicine, Midwifery, Veterinary Surgery.

Both classes of students, during the last two years, are obliged to attend the hospital daily. At the termination of the first year, they take the degree of *bachelor;* at the end of the second, that of *licentiate;* at the termination of the course, that of *doctor* in medicine or surgery. Graduates of either class, wishing to take the highest degrees in the other, must study an additional year.

The course of study prescribed for apothecaries and veterinary surgeons is only for a couple of years. The following are the classes they must attend.

Apothecaries.

FIRST YEAR. Natural History, Botany, General and Pharmaceutical Chemistry.

SECOND YEAR. The same, and Materia Medica.

Veterinary Surgeons.

FIRST YEAR. General and Pharmaceutical Chemistry, Comparative Anatomy, Elements of Veterinary Surgery.

SECOND YEAR. Botany, Physiology, Veterinary Surgery.

These two classes of students, after the first year, take the degree of bachelor, and, after the second, that of licentiate.

The mode of examination of candidates is different from that followed in other medical schools. Five professors constitute a quorum, and at the examination of an applicant for a degree, each submits to him twenty different subjects, taken from his own particular course of instruction. He draws one of these by *lot*, and is forthwith examined upon it, whatever it may be. The examination terminated, the professors give their votes secretly, and the number of these obtained, and the circumstances under which they are obtained, by the candidates, constitute three different modifications of the same degree which are expressed in the diplomas.

If they obtain two-thirds of the votes, they are declared *approved*; if the whole, they are declared *unanimously approved*; (*a pieni voti*) and, to express a still further praise, they are declared *honourably approved*; (*approvati con lodi.*) Those who are rejected, cannot present themselves till after another year's study.

The course of study pursued at Bologna, merits our attention the more, as its medical school is one of the most celebrated in Italy.

In Tuscany, the two Universities of Pisa and Sienna, have each a medical faculty, which is composed of six professors. The doctorate is granted in both at the end of four years; but two additional years are required for clinical study, after which the candidate is examined for license to practise, before a board of twelve physicians, twelve surgeons, and as many apothecaries, elected from the most approved practitioners of Florence, of twelve years standing.

For the following account of Medical Education in the British Empire, we are indebted to a respected friend: we shall give it in his own words.

Those exercising the healing art in Great Britain, may be ranged in three classes, as physicians, surgeons, and apothecaries. The education and qualification of these several classes are various, with some shades of difference in the respective kingdoms of ENGLAND, IRELAND and SCOTLAND.

The apothecaries constitute, in England, the most numerous class, are often the practitioners in the first resort, and are the medical ministers to the great mass of the people. They exclusively occupy the hamlets and smaller villages, and abound in the larger towns and cities. Their sphere of action is the most extensive, embracing every circumstance in relation to the sick. To them is, in general, intrusted the duty of conducting women through the pains and perils of child birth. Performing such important offices in society, their education and qualifications are objects of interest.

Every one designed for this branch of the profession must be articled, or bound apprentice to an apothecary, until he has arrived at the age of twenty-one years. At the time his indentures are signed, it is presumed that he has acquired some knowledge of the Latin language, and his proficiency is determined by an examination in the Latin Testament.

During this apprenticeship, by the instruction of the principal, or master, and by assisting in the duties of compounding and administering medicine, and by occasionally visiting the sick, he is supposed to acquire the degree of information requisite to qualify him for the full exercise of all the offices belonging to the art.

In Scotland, the apothecaries are generally confined to the compounding of medicines. In Ireland they exercise the same functions as in England.

The surgeons may be considered as a higher order in the medical profession. Like the apothecaries, they visit the sick of every condition, perform all the operations requiring manual dexterity, attend to midwifery, and may dispense medicines. Those who intend to practice surgery, likewise serve an apprenticeship, and become members of the family of the surgeon, under whom they are placed. Their proficiency in the Latin is subjected to the same test, and it is presumed, that, by the private instruction of the principal, and by being present and assisting him in the various duties of his profession, they will be grounded in the fundamental principles of surgery. But, to insure more perfect information, they are required to attend three courses of lectures on Anatomy, and one course on Surgery, and to dissect for one winter or two courses, and to attend, during the term of one year, the surgical practice of some large hospital. Having fulfilled these conditions, and having attained the age of twenty-two years, they are examined by certain members of the College of Surgeons. The examination is confined to the candidate's knowledge of anatomy, and to his proficiency in the manual and medicinal treatment of surgical cases. To accomplish these objects, the pupils generally resort to London, where lectures on the several branches of medicine are delivered by numerous private teachers. In this metropolis there are, likewise, many large Hospitals, affording ample opportunity for clinical instruction.

The schools of most note are at Guy's and St. Thomas', St. Bartholomew's and St. George's, or in the vicinity of those Hospitals, where lectures are delivered, on

The Theory and Practice of Medicine,
Anatomy and Physiology,
Theory and Practice of Surgery,
Chemistry and Materia Medica,
Midwifery.

Practical anatomy, with demonstrations, constitute an important branch of the instruction communicated in these schools.

The courses generally commence with the 1st of October, and continue until the close of the year. A second course of three months commences with the 1st of January; thus affording two full courses during the winter season.

These lectures, with other courses of instruction on branches connected with the healing art. are accessible to every student. But, we believe, the majority of those intending to become surgeons, confine their attention to anatomy and surgery.

The regulations in Scotland do not require a regular apprenticeship, though the custom is general. Before being licensed to practice, the individual undergoes an examination, which embraces Pharmacy, Surgery and Physic. The surgeons may be considered as constituting the great bulk of medical practitioners in Scotland.

The Dublin College of Surgeons, previous to granting a license, requires that the candidate shall have served a regular apprenticeship, shall have attended lectures and dissections, and shall have submitted to a strict examination on his surgical qualifications only, or the manual and medical treatment of surgical cases.

The physicians in England are licensed by diploma from Oxford or Cambridge, or by examination before the College of Physicians.

In the English Universities, the candidate for a medical diploma, being graduated as A. B., is, by residing one year longer, and disputing for two separate days before the Professors of the Medical Faculty, entitled to the degree of M. B. And by keeping additional terms, or a partial residence in colleges for three years, and then delivering three distinct lectures in the schools, he receives the full degree of M. D.

In these Universities, lectures are delivered by professors or teachers on medicine, botany, clinical medicine, anatomy, chemistry and mineralogy. But, whatever may be the reputation enjoyed by these venerable institutions, most of the candidates for medical degrees resort to London, Edinburgh, Glasgow, or some foreign University, for more full and complete instruction. The expenses thus incurred, compel the majority of those, aspiring to become physicians, to take their degrees at Edinburgh and Glasgow, and to submit to a further examination before the College of Physicians in London.

In Scotland there are four Universities having the power of conferring medical degrees: Aberdeen, St. Andrew's, Edinburgh and Glasgow.

The following are the regulations respecting medical degrees, now in force in the Marischal college and university of Aberdeen.

"1. Every person offering himself as a candidate for the degree of M. D. shall, 1st, produce satisfactory evidence of his possessing a good character, and of his having attained the age of twenty-five years; and, 2ndly, shall lay before the Senatus Academicus certificates of his having obtained the degree of A. M. in this or some other University, after the usual examinations;[*] of his having attended courses of lectures on Anatomy, Surgery, Chemistry, Materia Medica, Theory and Practice of Physic, and Botany, in this or some other University or celebrated school, under Professors or teachers of reputation; and of his having attended, for three or more years, a medical Hospital, containing the average number of at least eighty patients.

"2. After the Senatus Academicus shall have been fully satisfied on the above preliminary points, the applicant shall be received as a candidate for the degree of M. D., and shall be required to appear before the University, at one of their stated terms for granting such degrees, and in their presence be examined, by the Medical and other Professors, on the different branches of Medical Science—on his knowledge of the Greek and Latin Languages—and on such other branches of literature as they shall see proper. If fully satisfied with the qualifications of the candidate, the University shall confer on him the degree which he solicits."

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[*] As this requisition respecting the degree of A. M. might prove injurious to some medical students whose education is now in progress, were it to take effect immediately, it is resolved that it shall not come into full force till the year 1830.

"*Regulations respecting medical degrees, appointed by the Senatus Academicus of the University of St. Andrew's, to be observed in all time coming.*

"1st. No degree shall be conferred on an absent candidate.

"2nd. The candidate must produce a satisfactory certificate that he is upwards of twenty-one years of age, and that he is of unexceptionable moral character.

"3d. The candidate, if he be not in possession of a Diploma as A. M., must produce certificates of his having had a liberal and classical education, and be ready to undergo an examination as to his proficiency in Classical Literature by a committee of the University, or by the Senatus Academicus.

"4th. The candidate must produce certificates that he has attended in some University or celebrated school of Medicine, for at least four complete sessions, during four years, the following branches of Medical Education, viz. Anatomy and Surgery; Practical Anatomy or Private Dissections; Materia Medica and Pharmacy; Chemistry and Chemical Pharmacy; the Theory of Physic; the Practice of Physic; Midwifery and the Diseases of Women and Children; Botany, and Clinical Lectures delivered by Professors, or accredited Medical officers, or the cases of the sick in a large public Hospital. (It is not meant that the candidate shall have attended more than two or three of the above-mentioned Medical Classes during one session.)

"5th. The candidate must bring certificates of his having attended the daily visitations of the Physicians and Surgeons of such Hospital, for at least six months a year, during two different years.

"6th. If the candidate shall have so far satisfied the University, the rector shall be requested to fix a day for his examination by the Medical and other Professors, on all the branches of Medical Science; and provided this examination shall satisfy the Senatus Academicus, the candidate shall have delivered to him, a Medical case or cases with questions subjoined, which questions he must answer in writing, and defend his answers before the members of the University.

"7th. The whole proceedings shall then be submitted to the consideration of the Senatus Academicus, and if they are satisfied, the degree of M. D. shall be conferred on the candidate by the rector in the hall of the public library."

"Such are the regulations appointed by the University of St. Andrew's, to be observed in all ordinary cases. When, however, the candidate, possessed of a Surgical Diploma from Edinburgh, London, Dublin, or Glasgow, shall have been in regular practice for some years, or when he shall have been appointed and have acted as surgeon in his majesty's navy or army, or to the forces or ships of the East India company, a three years' attendance on the above-mentioned courses of Medicine, and one year's attendance on a public Hospital, shall be sufficient to rank him as entitled to be examined.

"Farther, it is desirable that all candidates communicate by letter with the Medical Professor, and send him a list of the certificates he means to produce, before he repairs to St. Andrew's, for examination. This may prevent disappointment, delay, and expense, to the candidate.

"8th. The University reserves to itself the power to confer honorary degrees in medicine, on highly distinguished individuals, who cannot be expected to comply with the above regulations; but every such honorary degree shall be conferred unsolicited and free of expense."

In Edinburgh, by the new regulations of 1825, every candidate for graduation must have spent six months at least of each of four years in the study of Medicine. There is an exception to this in the case of those whose previous general education has been ample, and who, before commencing their medical studies, have obtained the degree of A. M., or an equivalent degree, from some university. One of the four years of medical study may be spent either in some other University, or elsewhere, provided that, in the latter case, the student attend for six months, or more, the practice of some great Hospital. And, farther, those who after passing the necessary examinations, have already acted as Medical officers in the army, navy, or East India Company's service, are excused from one of the four years of medical study.

These regulations make it incumbent on the candidate to produce certificates from each of the professors, of his having attended three full courses on the following branches, viz. Anatomy and Surgery, Chemistry, Materia Medica and Pharmacy, Practice of Medicine, Obstetrics, and the Diseases of Women and Children. These courses commence in November, and continue for six months.

He must likewise produce certificates of his having attended two courses of Clinical Medicine, which consists in accompanying the clinical professor in his daily visits to the patients in the select wards of the Infirmary, and of hearing the lectures delivered by this professor. The lectures are given twice a week, and the course continues for three months. Two courses are given during the session, but the period of attendance is optional with the candidate.

He must likewise produce certificates of his having attended lectures on two of the following branches: the selection is at his option. Practical Anatomy, Natural History, Medical Jurisprudence, Clinical Surgery, Military Surgery. These lectures continue for three months. He cannot, however, attend the Clinical Medicine and the Clinical Surgery at the same season.

Besides the attendance on Clinical Medicine, he must have attended, for six months, the practice of the infirmary, or some great Hospital.

The candidate for Medical degrees, must signify his intention to the Dean of the Faculty before the twenty-fourth of March, giving satisfactory assurance that he has attained the age of twenty-one years, or that he will have completed it before the day appointed for his examination, and that he is no longer under indentures to any surgeon, apothecary, or person whatever. He must describe the nature of his studies, and produce the requisite certificates, and he must present an inaugural dissertation of his own composition, in Latin, to be examined and approved by one of the Professors designated by the Dean.

Before he is admitted to examination on medical subjects, the faculty must be satisfied that he is sufficiently versed in Latin, when the examination may be conducted in that or any other language, as may be considered most convenient for determining the extent of his acquirements.

If, on this examination, he be found competent, two medical cases with questions are proposed, relating to which he must give a full history, with suitable answers, written in Latin, in ten days, and defend the same publicly on the sixth of July.

After this trial, he must be examined on his thesis, of which at least forty printed copies must be presented to the Dean on the sixth of July. If the candidate have stood this examination, the Dean shall inform the Senatus Academicus, upon whose approbation and authority, he must publicly defend his thesis, on the eleventh of July, and on the succeeding day, if found qualified, the medical honours will be conferred on him.

At Glasgow, the same regulations are observed, except that the term of three years is deemed sufficient.

Those who have studied for three years in any University, may, after one full year's attendance on the courses delivered in Edinburgh or Glasgow, respectively be admitted as candidate for the degree of M. D.

In Ireland, there are two institutions with the right of conferring Medical degrees: the University in Dublin, where the regulations are the same as in Cambridge and Oxford, and the degrees thus conferred are equivalent to those obtained in the two English Universities; and the School of Physic, founded by Sir Patrick Dunn, for the instruction of students of Medicine, Surgery, and Pharmacy, the mode of conferring degrees in which, is the same as in Edinburgh and Glasgow.

Lectures on the following subjects are delivered from the first Monday in November, until the end of the succeeding April, viz. on Anatomy, Physiology and Surgery, on Chemistry, on the Institutes of Medicine, on the Practice of Medicine, on Materia Medica and Pharmacy. The lectures on Botany commence on the first Monday in May, and continue until the end of July.

Clinical lectures are given twice a week during the session; lectures on Pathology during the month of May; Anatomical Demonstrations daily during the session. Students are likewise instructed in the performance of surgical operations. Towards the close of the session, a course of lectures is given on the Diseases of the Skin. Lectures are likewise delivered in the spring, on Midwifery and the Diseases of Women and Children.

At the chemical laboratory, pupils are instructed in Operative Chemistry; and Botanical Demonstrations are given daily by the Professor's assistant in the garden, during the season. Pupils are likewise instructed in the practice of Pharmacy.

In the United States, the facilities for obtaining an elementary Medical Education are numerous. In New England, there are many colleges which confer degrees in Medicine; though, if we except that of the Harvard University at Cambridge, their medical faculties are not, we believe, very efficiently organized. In the State of New York, there are two Medical Colleges authorized by law; and in Pennsylvania, the same number, both of which are in Philadelphia. Maryland, South Carolina, Kentucky, have each a Medical school in regular and efficient operation. In Ohio, the attempts to establish a system of collegiate medical instruction, though under legislative sanction, have not yet succeeded to the extent of the wishes of its friends.

The laws of the University of Pennsylvania, exact as necessary conditions for obtaining the degree of Doctor of Medicine, that the candidate shall have attained the age of twenty-one years, shall have applied himself to the study of Medicine three years, two of which shall have been in the University, shall have attended one course of elemental instruction, either in the Pennsylvania Hospital, the city Alms house, or in some other suitable place, at the discretion of the medical faculty; and also have attended the practice, and been the private pupil of some respectable practitioner.

It is, moreover, enjoined

"That no person shall be admitted as a candidate for said degree, unless he shall have regularly attended two complete courses of the lectures of

"The Professor of Anatomy,

"The Professor of the Institutes and the Practice of Physic, and Clinical Medicine,

"The Professor of Surgery,

"The Professor of Materia Medica,

"The Professor of Chemistry,

"The Professor of Midwifery.

"Each candidate for the degree of Doctor of Medicine shall, on or before the 10th of March of the year in which he offers himself as a candidate, and one week before the time appointed for his examination, deliver to the Dean, a thesis of his own composing, on some medical subject, which subject shall have been approved of by the Professors. The candidate shall then be examined privately by the Professors, upon the various branches of Medicine, and upon his thesis, in the presence of such of the trustees as may choose to attend, notice of the time of examination having been previously given to them. If he be found qualified, he shall be reported by the Dean to the Provost, who shall communicate such a report to the trustees, in order that, if approved of by them, their mandamus may be issued for conferring the degree at such a time as they may judge expedient, but no degree shall be conferred, unless ordered by a mandamus, signed by thirteen trustees.

"The thesis may be published, if the candidate desires it, the permission of the Professors by whom he was examined thereon, having been first obtained, but no alteration therein shall be made after such permission shall have been given, and a copy of the thesis shall be deposited by the candidate composing it, in the University library, before the degree shall be conferred.

"Medical students, who have attĕnded one complete course in a respectable Medical school, where the attendance on two complete courses is necessary to a degree, and where the same branches are taught as in this school, may become candidates for a degree after attending one complete course of the professors above mentioned."[*]

As in the Medical College at New York, and that of the Transylvania University at Lexington, regulations nearly similar to the above are in force, the students of those schools enjoy the benefit of this last provision. In Baltimore the students are not required to attend two full courses, but are at liberty to select the branches in which they wish to be instructed.

The degree of Master of Pharmacy, though conferred by the University of Pennsylvania, after the fulfilment of certain specified conditions on the part of the candidate, is now more generally bestowed by the College of Pharmacy of Philadelphia. In this latter institution, regular courses of lectures are delivered on Chemistry, and on Materia Medica and Pharmacy.

We will conclude this article by offering some improvements to our system of medical education, in doing which, we shall borrow freely the ideas and language of the author of the "Thoughts, &c." What he tells us of the English apprentice will, we fear, apply with some force to the American student, where he says,

> "This period of unnecessary servitude occupies five of the best years of his life, and I will venture to affirm, that it is generally dissipated in acquiring little more than the method of compounding medicines, which might be acquired in as many months. Habits of idleness are frequently formed; the mind of the pupil is filled with confused ideas of the effects of drugs, without any knowledge of the principles which should always direct their application, and it is in the last year only of his apprenticeship, or in numerous instances, not until it is completed, that he really begins the study of his profession. But suppose the student has now passed the twentieth year of his age: that he feels the necessity of commencing the actual business of life; and, consequently, looking chiefly to the rapid attainment of such a portion of information as will enable him to pass his examinations, and enter upon the practice of his profession, that he attends only to those branches of medical education, which will enable him to accomplish these objects in the shortest period of time. He studies anatomy, and dissects, because he cannot advance one step without these aids; but, from his ignorance of mechanics and of chemistry, he is not prepared to understand physiology; and, having no acquaintance with the philosophy of mind, he cannot trace its influence upon the coporeal functions; so that, not unfrequently, he becomes a mere routine practitioner, or a trader in specifics, depending for

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[*] Laws for the government of the medical department of the University of Pennsylvania. 1826.

assistance, in every case of difficulty, on the opinion and skill of others."—pp. 3, 4.

The writer then proposes, that the system of apprenticeship shall be abolished, and advocates the plan of the young man at once going to London, and there beginning his medical studies. "I will suppose," he says,

> "That the building for the University is completed; that the lectures are about to commence, and that a young man presents himself to be admitted as a student of medicine. I must presume, that, before his wish can be accomplished, the rules of the establishment will require that he be examined regarding his attainments in classical literature. To what extent this may be requisite, it is not my intention to inquire, but, certainly, the candidate should possess such a knowledge of the Latin and Greek tongues as may enable him to read the ancient medical authors in the language in which they wrote. And, besides, as medicine is a profession which elevates its followers to the rank of gentlemen, the student who is desirous of attaining eminence, should possess that portion of classical learning which every gentleman is presumed to have acquired. Mathematics is another branch of general education which every student of medicine should have studied, to a certain extent, before commencing his medical education: for, if it be no difficult task to prove that a knowledge of the principles of mechanics is essential in a complete medical education, it must be obvious that mathematics, as a preliminary study, cannot be dispensed with, even were no other advantage obtained from the study of that branch of science, than the faculty of following a chain of close and abstract reasoning which it bestows. The student who enters for medicine, should also have a knowledge of drawing, or as much of it, at least, as will enable him to delineate with facility and accuracy, the parts of the human body, both in the state of health and of disease. It is, indeed, astonishing that the art of drawing is still so totally neglected in the education of medical men, when the advantages derived from that accomplishment by a few members of the profession, who have made it an object of study, are generally known. Besides the facility which drawing affords of rendering permanent, diseased appearances of a changeable character, and of communicating ideas of them to others, much more accurate and satisfactory than could be accomplished in many pages of description in words, that delightful art confers upon its votaries almost an additional sense."—pp. 12, 13.

Though we are not prepared at this time to advocate, as a general practice, the youth of our country coming to our large cities for the purpose of spending there the entire period of medical study, in place of remaining, as now, a portion of the time with a practitioner at home, yet we still conceive the preceding remarks entitled to especial notice and consideration; and we are fully persuaded that some such preliminary qualifications as those above stated, ought to be required of a young man, before he is received into the office of a practising physician. We cannot conceive a better exercise for a country student than drawing, first the bones of the human body, and then the muscles and principal organs. Six months spent in this way, with, perhaps, a single dissection, will give him a fuller knowledge of anatomy, than two years of reading; to say nothing of its being so admirable a preparation for the study of surgery, by fixing indelibly on his mind the relative situation and connexion of parts, and giving him a habit of minute investigation, and accuracy in measurement, so necessary for the success of surgical operations. Botany will, to a youth who has command of his pencil, appear with additional charms; scarcely can he have drawn and coloured a dozen of plants, before he will be solicitous to know the names and offices of the various parts of which a vegetable is composed; and thus botanical terminology will lose all its imaginary terrors. The same useful application of this accomplishment may be made to other departments of Natural History, and the student, while he thus habituates himself to observing the external characters, colour, attitudes, &c. of plants and animals, is laying the surest foundation for that knowledge of physiognomy, in the enlarged sense of the term, which is afterwards to enable him to detect in the symptoms and signs of diseases, some of which are often evanescent, the indices to a correct diagnosis and successful remedial treatment.* It would be well if the example of the University of Gottingen were more generally followed in making, as has been done in it, Drawing, a regular chair of the philosophical faculty, between mineralogy and astronomy. The illustrious Bacon, with his usual discrimination, places the pictorial and plastic arts among those subjects which more immediately constitute the natural history of man, and have an especial relation to medicine, as we find in his mentioning, 66. *Historia Chymica circa Medicinas;* 67. *Historia*

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* An experienced teacher of drawing in this city, Mr. P. Ancora, has, at our suggestion, taken, in crayon, draughts of the entire skeleton, and muscles of the trunk and limbs, of a natural size, which have been already copied with acknowledged good effect by some of the students of medicine.

Visus et visibilium, sive Optica; 68. *Historia Picturæ, Sculptoria, Plastica, &c.*; 69. *Historia Auditus et Sonorum.*

But to return to our author. He proposes

"To divide the course of medical studies into three stages; preparatory, progressive and practical. The first, or *preparatory* stage or division, comprehends those studies which convey a knowledge of the forms of bodies, and of their parts or fabric, and the most generally adopted arrangement or classification of natural objects, viz.

"Natural History,
"Systematic Botany,
"Descriptive Anatomy.

"The second, or, *progressive*, to embrace those studies that contribute to develop the laws which regulate inorganic matter, and the functions of organic bodies:

"Natural Philosophy,
"Chemistry,
"Phytology,
"Physiology,
"Moral Philosophy.

"The third, or *practical*, to consist of those studies which convey a knowledge of the ultimate objects of the profession of medicine, and, consequently, teach the application of the previous studies:

"Materia Medica and Pharmacy,
"Pathology and the practice of Medicine,
"Surgery,
"Obstetrical Surgery and Medicine,
"Medical Jurisprudence,
"Medical Ethics.

"During the period required for the studies of the second and third divisions, the student ought to be occupied daily, for two hours, at least, in the dissecting room, under the direction of an assistant of the professor of anatomy, whose sole duty should be to guide him in his dissections, and to demonstrate the parts dissected; and, during the third division, besides attending regularly in a hospital where *clinical lectures* are delivered, no opportunity of assisting at the dissections of diseased bodies should be neglected." pp. 16, 17.

We have not room to give the reasonings by which the writer supports this division of branches, nor his remarks on the utility of each; nor are we prepared to advocate entirely the propriety of all his views, which, however, justice requires us to acknowledge, are generally practical, and always liberal. Medical education must receive an impetus from the spirit of the times; and it behoves the directors of medical studies to give it such a direction, as that it shall meet the wants, if not anticipate the wishes, of an enlightened people. In this, as in all other matters, temperate reform ought to be preferred to violent revolutions; but though we deprecate passionate or selfish haste—let us not on that account, be supinely quiescent under a system, when comparison and experience shall show it to be defective and inefficient for the purposes for which it was originally framed.

We shall draw our remarks to a close for the present, by a brief recapitulation of the course pursued in the most celebrated foreign schools of medicine. We have seen that in the Austrian Universities, and the three French Faculties of medicine, before a youth is allowed to enrol himself as a medical student, he must exhibit satisfactory testimonials of his having received a liberal education in classical and general literature in the Lyceums: and at the Universities of Aberdeen and St. Andrew's, the candidate for graduation must either exhibit his degree of M. A. or undergo an examination by the Senatus Academicus, in which he is to give proofs of his attainments in classical and general literature.

The entire period of studies before the degree of Doctor in Medicine can be obtained, is in Austria, and at two of the most celebrated of the medical schools of Italy, (Padua and Pavia) *five* years. In France, and in some parts of Italy, as at Bologna, and at St. Andrew's and Edinburgh in Scotland, *four* years is the prescribed period of *Collegiate* Medical study; while in Glasgow, it is required of the candidate to have spent but *three* years in a similar manner.

The *number of branches* of Medicine and Surgery, taught in Vienna, is eighteen; attendance on which, in a certain order, is exacted of every student, during his five years of study. In Gottingen, twenty different courses of lectures are delivered, in the Medical department, by nine professors; on no one of whom, however, is attendance specifically enjoined of the students. In Paris, the number of professors in the School of Medicine, regularly nominated, is twenty-two. The only presumptive evidence of the student having attended all these in succession, during his four years of study, is his trimestral *inscription*: in other respects, he is free to choose whomever he will attend and hear.

In Strasburgh, the medical faculty consists of twelve professors, each of whom lectures on a separate branch.

In Pavia and Padua, there are in each, fifteen distinct branches, taught by as many professors; attendance on eleven of whom is enjoined in the school of Padua, and on thirteen in that of Pavia, in a certain regular series, during the five years of study.

In Bologna, twelve professors teach the like number of different branches; to attend whom, in a regular and prescribed order, is exacted of the students of the Medical School, during their period of four years study.

In Edinburgh, during the four years study enjoined on the candidate for graduation, he is required to attend lectures on seven different branches.

At the University of St. Andrew's, attendance on the lectures on nine branches, and at that of Aberdeen, attendance on six, at some respectable Medical School, is demanded as a necessary prerequisite for obtaining the degree of Doctor of Medicine, at those institutions.

In the United States, the longest period of medical study prescribed by any University, is, we believe, three years; and during this time, the attendance of the student is exacted for two winter sessions, each of four months, on six professors, who teach the same number of branches. In fact then, *the entire medical collegiate course is comprised in eight months.* No preliminary qualifications are demanded of the youth about to study medicine, nor are any insisted on from the candidate for graduation. The system of branches being taught in a regular series, beginning with the more simple, and, as the term of study advances, continuing with the more complex and difficult, is not recognized nor acted on in any of our Medical Schools. The cause of all the deficiencies with which, in a spirit of rigid impartiality, they may be charged, is in the limited period of medical study, and the shortness of the collegiate sessions. On this ground, we believe, rest the apologies for not erecting into separate chairs, the Institutes of Medicine, and Medical Jurisprudence: but the former is taught in the Transylvania University, and at the Baltimore Medical College, and in the chartered Institution, in the western district of New York, by professors appointed specifically for that duty; and at the best, we are at a loss to learn why one evil should be alleged, in justification of another. In continental Europe, we have seen, that not only is the Institutes of Medicine, or the Theory of Physic constantly taught, but that it is usually divided into two distinct branches, viz: Physiology, and Pathology; which, as the only sure foundation for medical reasoning, and as constituting the principles to guide in the practice of medicine, cannot be overlooked or neglected, without greatly retarding the advance of medical science, and being productive of serious detriment to the people at large, whose health and happiness so much depends on the expanded minds and correct judgment of their medical advisers. Of Medical Jurisprudence, in reference either to its intrinsic and direct usefulness to the students of law and medicine, or to its value in teaching the nature and weight of testimony, it is needless to enlarge on this occasion. We should be doing injustice to the profession of which we are members, if we did not, however, pointedly express our thorough conviction of the imperative necessity, (alike dictated by the wants of the age, and the progress of the science of medicine) under which the directors of Medical Colleges are now placed, to establish separate chairs for the teaching of the Institutes of Medicine, and Medical Jurisprudence. By such means, timely adopted and vigorously supported, will a broad line of demarcation be drawn between the ignorant pretender, and the accomplished physician; and then may we echo with renewed delight, the beautiful compliment of Cicero: "Homines ad Deos nullâ re proprius accedunt, quam salutem hominibus dando."

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MEDICAL LITERATURE.

Article X.—Retrospective Review.—*Recherches sur le tissu muqueux, ou l'organe cellulaire et sur quelques maladies de la poitrine.* Par Theophile Bordeu. Docteur en Médecine des facultés de Paris et de Montpellier.—Paris 1767, 12mo.

> Suum cuique judicium, et omnes, pro suo quisque arbitratu aliter atque aliter eâdem de re sentiunt.—*Ballonius.*

Previous to the time of Bordeu, little positive, was known in relation to the Anatomy or Physiology of the cellular tissue, *tela seu tectus mucosus cellulosus*, of various writers, or *cribrosus* of Hippocrates. With the exception, indeed, of some references to it, discovered in the writings of the Coan sage, it may, we think, safely be asserted, that by the ancient writers on Anatomy and Medicine, it was not described, or even alluded to, in a definite or intelligible manner. Charles Etienne, who flourished about the middle of the fourteenth century, was the first to describe in a tolerably faithful manner, the cellular filaments, by which the vessels are attached to the surrounding parts. After him, Vesalius and Columbus described the cellular envelope of the muscles; and at a subsequent period, many anatomists, such as Schoburger, Thierry, Hunter, and others, whose names are recorded in Haller's great work on Physiology, described the same texture, as it exists in several parts of the body. But to Bordeu, the credit is certainly due, of having first given a general description of the cellular tissue,—of pointing out the modifications of its structures in different parts of the body, and attempting to show its functions, both in a state of health and disease.

According to one of Bordeu's biographers, Roussel, the work before us was necessary, for the explanation and development of all our author's views, partly published in his former writings. Bordeu's object, it would seem, was to direct the attention of physicians to the neglected course of observation and induction:

which, when he wrote, were greatly obscured amid the jargon of the schools, or even in some places, had entirely given way to the hypotheses of chemical and mechanical medicine, or the absurd notions of an exclusive humoralism. Whether or not he succeeded in the attempt, and pointed out the superiority of the ancient doctrines over those of his own time, it is not our object, on the present occasion, to inquire; but we may safely say, that the present researches into the Anatomy and Physiology of the cellular tissue, gave to BICHAT the first idea of his Treatise on the Membranes, and his immortal work on General Anatomy.

BORDEU very well remarks, that of all the various tissues of the body, the cellular, or as he called it, the mucous, is the most extensive, and of the greatest use in the system. It serves to the nourishment of all the organs, and constitutes in fact, the basis of their structure: one of BORDEU's successors, who adopted most of his ideas on the subject of this tissue, regards it as the first degree of organization; and MECKEL has well denominated it the matrix of all the organs. BORDEU further remarks, that it unites the various parts of the system together, and serves as a medium of communication between them. It is the seat of many diseases, and of many phenomena of the economy, in a state of health.

After a few preliminary observations, on which we have not room to enlarge, our author remarks, that on separating a small bundle of muscular fibres, we discover a sort of froth or glue, whose parts are elongated, in proportion as the fibres are separated. This glue constitutes the cellular membrane in its primitive state, and is allied to what the chemists call the mucous substance of vegetables. Hence BORDEU was induced to apply the term mucous, to denominate this membrane. "When examined with the aid of a microscope, it appears to be a compound of atoms, or small bodies united together, and arranged without symmetry, more or less soft, and transparent. It may be compared to animal jelly." It follows, therefore, that in BORDEU's opinion, the cellular tissue is homogeneous in its nature; an opinion which has been opposed by no less authorities in Anatomy, than HALLER, BICHAT, BECLARD, BLAINVILLE, and most of the Italian and English Anatomists, who regard the tissue as purely filamentous and cellular. It is gratifying, however, to the admirers of BORDEU, to perceive, that his opinion is supported by WOLFF, AUTENRIETH, BLUMENBACH, RUDOL-

PHI, and particularly by MECKEL, who does not hesitate to affirm, that the filaments and cells are made by the dissector, or arise from disease, and do not exist in a healthy state of the parts.

Some modern writers have denied the correctness of the opinion of BORDEU, respecting the nature of the cellular tissue, and assert that it is a mere compound of vessels, arterial, venous and lymphatic; but, as has been well remarked by a late author, the idea of vessels, implies that of parietes; and even supposing that the opinion was correct, it is precisely their parietes, that constitute the primary fibres of the cellular tissue. Agreeably to BICHAT, the cellular organ may be viewed as the origin of the absorbent system; and he further thought, that these vessels and the exhalants enter largely into its texture; but he adds, that neither observation nor dissection, can be called in support of the opinion of those who believe that they constitute its whole texture.

According to BORDEU, in order to trace the progress of the cellular tissue, as well as all the changes it undergoes at the different epochs of life, it is necessary to examine it in the earliest periods of the fœtal state, and in the adult. The muscles of a chick, in the early periods of incubation, consist in nothing more than a kind of soft pulp, apparently homogeneous in its texture, and in which, neither a fibrous, nor a vascular structure is to be traced. After a certain time, fibres appear, or at least the whole muscle is not as homogeneous as before, and no longer resembles a piece of dough. Its parts are divided and separated from each other—they become more evidently organized—fibres and vessels appear, and there remains in their interstices, some of the glutinous substance, of greater or less consistence; this constitutes the real cellular tissue. Previous to the development of the fibres, the substance consisted merely in a quantity of mucous or nutritious matter; which, in the period we have alluded to above, has become organized and fibrous, and divided into a number of small layers or laminæ, variously united to each other, and which laminæ form, or constitute a certain quantity of cellular substance.

This tissue surrounds each muscular fibre separately, and, moreover, forms a sheath, containing several or many of these fibres. The laminæ of the cellular tissue, could, therefore, be divided into primitive and secondary. The former being very soft, the latter more tense and membranous. It follows from this arrangement of the fibres, that the cellular tissue must be viewed as a spongy substance, in which there are cavities, varying according to the degree of motion and separation of the fibres.

Agreeably to Bordeu, the primitive fibres are equal in all subjects; they change neither in respect to size or shape. They are, he adds, more or less straightened or wrinkled, but, on the whole, they are the same in all sorts of animals; they constitute the principal material of the animal body. Nature has constructed them all alike. He, moreover, thought that each organ contained an equal number of fibres in animals of the same species; the only difference in the size, strength, age, sexes, and temperaments, in the individual animal, depending on the abundance, position, and consistence of the cellular tissue, or of the sheaths it furnishes to all the fibres.

On the subject of the nourishment and growth of the cellular tissue, Bordeu entertained opinions, in many respects at variance with those defended at the present day; nevertheless they merit to be noticed here. According to him this substance is nourished by juxta-position, and its growth is accomplished layer by layer, in the same way as a body on which we apply several coats of varnish. In order to demonstrate the correctness of this opinion, he appeals to the facts already shown a few years before by Petit, that the crystalline lens is composed of several layers of cellular tissue, as well as to the circumstance that Duhamel has proved, that the growth of bones is effected by the application of layers, which he regards as the products of the internal or external periosteum. These products, Bordeu continues, are real cellular, or rather mucous tissue, which concretes gradually, and is applied by concretive layers, in the same way as the nutritive substance of trees. He also cites the scaly disposition of the epidermis, which he thinks depends, in the natural state, on a sort of mucous substance, which concretes,—an opinion adopted in latter times by Meckel and other anatomists. Similar, though less regular scabs, Bordeu continues, are seen to form on old ulcers, in the remains of the pustules of the small pox, in cicatrices, &c. which are merely concretions of a matter exuding from the affected surfaces.

Such an hypothesis, however, is totally inadmissible in the present state of the science, for, were we to regard **Bordeu's** views as correct, we should be in some measure forced to consider all of them as scabs, and as being inorganic, and placed beyond the precincts of vitality. And yet it may be asked, in the language of a celebrated anatomist, what is a tissue which is nourished, which inflames and suppurates, which is the seat of well marked vital functions, and lives in a very sensible manner, if not an organic tissue? "All these vague ideas," says **Bichat**, "of concreted juices, of non organized glue, of hardened juices, which have been applied to the cellular tissue, do not rest on a solid foundation, on any experiment, or on any observations, and must be banished from a science, in which the imagination is nothing, and facts are every thing."

After stating that the nails, teeth, vertebral ligaments, &c. grow by successive layers, **Bordeu** remarks, that the cellular or mucous substance grows in this way every where, and concurs to the nourishment of all parts, and that the difference existing in the manner in which the layers are placed, depends upon the diversity of shape of the fibres on which they are applied, and the disposition of the various organs, to the composition of which they contribute. He further remarks, in conformity with the views we have noticed in a former number of this journal, that this variation depends on the disposition of the nervous fibres of the part; these nervous fibres containing the germs of each part, which is developed gradually in the cellular substance. This theory, he thinks, accords very well with many phenomena of the animal economy, especially with the mode of formation of cicatrices. The doctrine of the cellular layers, together with what has been said respecting the *immutability* of the nervous or primitive fibres, can, agreeably to B., throw some light upon the theory of inflammation; since all inflamed parts contain a nucleus or effusion of mucous substance, which constitutes a kind of cicatrix, even after the resolution of the inflammation has taken place. Many diseases, both acute and chronic, depend, therefore, upon the disposition of the cellular substance.

"What must be thought after all that has just been said, of the assertions found in many authors, on the subject of the diseases of the fibres? *Stiffness, looseness, dryness, debility, delicacy*, and *coarseness* to which it has been pretended they were subject, do not much agree with the fixed and immutable constitution that we have said belonged to them; it would, no doubt, be better to attribute all these accidents, (the causes of which are referred to a proper and personal disposition of the fibres,) to the disposition of the laminæ of the cellular tissue; besides, what has been said of simple fibres, ought to be understood of bundles of fibres, the greatest portion of which, consists only of cellular tissue; but all those diseases, in general attributed to the fibres, are only mere manners of conceiving things; approximations and suppositions, supported by an imagination that simplifies all objects; those general conditions, or diseases, are not found in patients; they are ideal and imaginary, and can, at the most, serve, as infinitely small quantities, or, as points without extension serve mathematicians. Scholastic minds are fond of thus reducing things under points of view, from whence they set out to extend their theory, or to establish, in the schools, some general laws; these laws may please the multitude, and light minds, but we are always obliged to abandon them at the bed-side of the sick. It is there we are able to appreciate these frivolous speculations: they only serve to amuse persons without experience."

Having, as yet, considered the cellular tissue only in a general manner, and, as a homogeneous substance, separating the fibres from each other, and uniting them together, Bordeu next proceeds to examine it as it forms the principal layers or membranes, enveloping the various organs of the body.

This tissue, according to him, may be divided into two general layers; the one may be called internal, occupying, as it does, the principal cavities; whilst the other is external, and covers the whole surface of the body. Each of these layers is subdivided into several large portions or sacks. The pia mater, the pleura, and peritoneum, constitute portions of the internal layer. These membranes are evidently laminæ of cellular tissue, which have been so approximated to each other, by the surrounding parts, as to be converted into smooth and polished membranes, especially on the side most liable to friction. This hypothesis is little supported by facts, since in an early period of the fœtal state, and in which the organs covered by the nervous membranes are little subject to friction, these membranes are found perfect in their organization. It may also be remarked, that whenever, during life, owing to inflammation, these parts exude a quantity of lymph, which Bordeu would probably call mucous, since, with time, it becomes converted into a real cellular tissue, notwithstanding the utmost degree of friction, the membrane has its polish, and remains glued to the surrounding parts. It follows, therefore, that although it be a fact well established by subsequent observations, that the serous membranes are resolved into cellular tissue, we must admit, that owing to a peculiarity of organization, the laminæ, which compose them, assume, from their very origin, the membranous form, and that this latter does not depend simply on compression and friction as maintained by BORDEU.

Next follows a rather minute description of, and a train of remarks on the serous membranes, which we have not room to notice here in detail. The following extracts may not be uninteresting, as showing the author's manner, and some of his particular opinions.

"However this may be, the sack, commonly called the internal membrane of the peritoneum, is only a species of bladder, the external surface of which is attached to thousands of laminæ, which are, as it were, its appendices; these laminæ penetrate into the neighbouring parts, and we commonly call them the external layers of the peritoneum; they consist in portions of the mucous tissue, which are not so near the state of a membrane as those composing the internal layer."

"We know that in detaching the external layer of the peritoneum, from the surface of the liver, we perceive a very fine lanuginous tissue, which served as a glue to the membrane: this tissue is only an expansion of that which followed the vessels of the liver; but there is still another portion of the same tissue which composes the body of the viscus itself, so that, with the exception of the vessels, nerves, and biliary ducts, it is almost entirely formed of this substance. The first layer serves as a general covering to it; another follows the vessels in all their divisions and encloses them; a third, in short, serves as a base or a foundation, upon which the vessels extend their ramifications; at any rate, what we regard here as three portions, is but one and the same tissue, whose parts are more or less firm or delicate. Besides, we consider the viscus and its cellular tissue, not such as it was originally, but such as it is in the adult; and this consideration principally points out the different direction that any substance (contained in the different portions of the cellular tissue) could take."

"What we have just said of the liver, ought to be understood of all the other viscera of the abdomen, with the exceptions that every one ought to know, from the history of the peritoneum, contained in the treatises of anatomy."

"Such is then the manner in which the cellular tissue covers the viscera of the three cavities of the body. As respects the substance of these viscera, we must not judge of them as of the muscular fibres, in which the cellular layers are arranged symmetrically, and in cylindrical sheaths, in which the fibres slide. The texture of the viscera is not the same. The cellular substance is placed in a much less regular manner. It is less organized, and resembles a sponge; it approaches in nature a bit of nutritious dough. Hence the flesh of the viscera is less moveable, less animalized, if we may be allowed the expression. The ancients called it parenchyma. The moderns have endeavoured to render obsolete this term, which is a trifling error. But they have endeavoured to give a particular and well defined form to the tissue of the viscera; and here they have not succeeded. One must always arrive at something pulpous, not vascular, not vesicular, something which only consists in mucosity, and a primary layer of the mucous tissue."

Bordeu's second or external layer consists in that general covering or kind of sack, found on dissection under the skin. It is not smooth, like the former, owing, as B. thinks, to a less degree of compression, and to its being less subject to friction. It may be divided into several portions or sacks; the first situated on the head and neck, the second on the thorax and trunk, and the third on the extremities. Each of these portions of the external layer communicates with the corresponding portion of the internal lamina. This communication is not effected in all parts of the body by the shortest route, but sometimes in a very tortuous way. Those portions of the tissue which correspond to the interstices of the muscles, proceed in a pretty straight direction from the external to the internal parts of the body; but this occurs in but few places, because in most instances one muscle fills up the space left by the others. Consequently, the cellular tissue must envelop each muscle before going further, and thus constitute its proper membrane. Each muscle has its particular one, while by its external surface, and through the medium of a looser sort, the same tissue adheres to many more. Each fasciculus of muscular fibres has also its sheath, which acts in regard to them in a similar manner as the external layer of the whole muscle does in regard to it.*

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* Bichat, who certainly deserves the greatest praise for his researches into anatomy and physiology, and who has carried a knowledge of the structure and properties of the cellular membrane much farther than Bordeu could possibly have done, has not shown as much justice to the latter as he appears to us to deserve. In his chapter on this subject, Bordeu's name is seldom mentioned, but on points in which he has erred; and yet a careful examination of both works will serve to show that Bichat has borrowed very largely from his predecessor. A quotation from the Anatomie Generale, on the subject more particularly before us, will serve to show this. "Each muscular fasciculus, each muscular fibre, each nervous filament, each aponeurotic or ligamentous portion, each glandular grain, &c. is sur-

In respect to the communication between the internal and external layers of the cellular membranes, it appears much more evident in some places than in others. The portion of this tissue covering the abdomen, communicates in a more direct manner with the peritoneum, towards the buttocks and fundament, than any where else. The portion covering the thorax is very thick and loose towards the mammæ, and in the axillæ, in both sexes. In this part the communication with the pleura is evident, and should be borne in mind by the practitioner in the treatment of thoracic diseases. The whole of the portions of cellular membrane covering the chest may be divided into two parts, joined posteriorly over the spine, and anteriorly opposite the sternum.

We make the following extract for the benefit of those, who, in later times, have discovered a communication between the pleura and the cellular membrane of the neck.

"The sack which covers the neck, the head and face, merits considerable attention: it first passes around the neck, joining itself towards its front part, to the platysma myoides; it afterwards pierces the muscle, and extends itself by loose productions, over all the neighbouring parts, to the larynx and the pharynx, where it communicates with similar productions sent off by the pleura. This communication is very evident upon the lateral parts of the neck, towards the masses of lymphatic glands which are situated there, and which float, as it were, amid a sort of fibres, composed of the cellular substance covering the breast and neck; it even appears that the former has a greater share in the formation of this texture than the latter. The posterior part of the neck is well provided with muscles, which are with difficulty pierced by the cellular substance; for although it is found in great abundance towards the surface, it is more dense towards the body of the muscles, through which we can, however, follow it as far as the vertebræ, and even into their cavity: it may also be done, though less easily, with the cellular substance of the back."

After describing the cellular membrane of the extremities, and explaining the use of the tendinous fascia, Bordeu makes the following remarks.

"The tissue belonging to the muscles of the extremities, has immediate and very singular connexions with the cellular tissue of the lower part of the abdomen and breast. It communicates towards the lower parts with the peritoneum, and towards the upper parts with the pleura; these two

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rounded by a cellular sheath or layer, which, in relation to these parts, is destined to the same uses, as the larger envelope we have mentioned, fulfils in regard to the whole again."

> membranes (that is, the pleura and peritoneum,) send out, 1st, productions which follow the cellular tissue of the vessels; 2nd, evident prolongations, whence result towards the groins, and under the axillæ, flabby masses, in which lymphatic glands are situated; 3d, prolongations which accompany and penetrate the muscles, and extend to the extremities of the limbs, where we find a curious mixture of aponeurosis, and of the cellular tissue, towards the wrists and ankle, also towards the toes, fingers, and their articulations. All these communications are important, and very often serve us in the explanation of the symptoms of disease. They demonstrate the connexion existing between the trunk and extremities, and afford an idea of the manner in which those parts can act on each other.
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> "Such is, in general terms, the picture one can give of the cellular substance and of its productions; we see it is composed of many general and particular layers (couches) singularly bound together; these layers differ in consistence, according as they are near or far from the first fibres: they at first envelop these fibres, or sheathe them as a slimy or mucous plaster; these layers afterwards dry up, extend and thicken themselves all along by the application of new layers, aided by the movements and extensions of the parts. The whole external layer, from the feet to the head, seems to be a single general sack; the same may be said of that which occupies the whole internal part of the intestines, from the mouth and the cavities which terminate in it. Of these two layers, the external one is the most extended, whilst the other is singularly folded; but it is sufficiently characterized not to escape the experienced eye: thus the external and internal surface of the body are but two lamina of cellular substance of more or less thickness; these two laminæ contain between them, or in the space that separates them, all the other parts; they are joined to those parts by productions which, as we have just shown, glue them together."

This state of communication and cohesion of the cellular tissue gives to it an evident tonic force; since all those sheaths or portions of this tissue, which we have already shown to exist between the two principal layers, act one upon the other. They afford each other a natural support, in such a way, that the one cannot be relaxed or constricted without affecting in a greater or less degree, all the others, and particularly those portions of it that belong to the same department. From all these efforts there results, according to B. a sort of equilibrium, a reciprocal action and re-action, depending as much upon the cohesion of the parts constituting the sheaths, as upon that of the portions by which these are united together. Finally, this tonic movement, which may be regarded as simply passive, retains the parts in their natural and reciprocal relations, and acquires more or less energy from the action of the nerves and vessels distributed to the cellular tissue.

> "It is in this spongy organ, thus arranged, that the different parts are placed, such as the viscera, the muscles and the glands; they are, as it were, planted in this parenchymatous substance, in which they grow, by covering themselves with many layers; they then extend and arrange themselves by the force of their germs, or of the extremities of their proper nerves. All those parts are, in young subjects, only species of buds which grow in the cellular tissue in the same way as branches, fruits, and leaves of trees extend themselves in the air, or rather as roots grow and turn (contournent) in the ground. However it may be, all these organs, thus imbedded in the cellular substance or organ, must constrict, confine, relax and modify it in a singular manner in these different portions: these modifications, which depend on the movements as well as on the mere presence of those organs, afford a correct idea of what has been called the department of the viscera and of the other parts, in the researches on the glands; the department of an organ is nothing more than its cellular atmosphere, if we may be allowed the expression, or else the department of a part is nothing more than the portion of the cellular tissue which has some relation with its action: when this part, then, changes its position or condition, the whole of the cellular tissue, which belongs to its department, receives also particular modifications."

Another very general property of the cellular tissue, as **Bordeu** remarks, is what might be denominated its *permeability* or spongy disposition, in consequence of which the aqueous vapour (or insensible perspiration) which continually moistens it, is allowed an easy passage from one part of the body to another. These vapours, he continues, may travel in all directions without in the natural state, meeting with any obstacle. In consequence of this view of the subject, he compares the cellular tissue to an atmosphere, in which the humours have generally a free passage, which, whenever it is deranged, gives rise to various accumulations and directions, depending upon the different degrees of strength of this same cellular tissue. According to him, it is by means of short currents, directions of the matter of perspiration, that many phenomena may be accounted for, which, by every other theory, are totally inexplicable. However ingenious such an hypothesis may be considered, we need hardly say, that, by later researches into the subject, it has been shown to be unfounded; anatomists and physiologists having proved that the halitus, vapour, and adipous fluid, stagnate until *absorbed*, in the place in which they were *secreted.* The contrary takes place only in a morbid condition or by mechanical force.

This opinion of the passage of the aqueous vapour from one part of the cellular membrane to another, cannot be thought to contradict BORDEU's statement already noticed, of the homogeneous and mucous nature of the tissue, in its primary state; for, although he believes this latter sentiment, he considers that the tissue grows by successive layers, between which the attachment is not so considerable as to prevent the passage of fluid, and even the formation of cells. Even by those who have carried, in opposition to HALLER and BICHAT, the opinion of the homogeneous and mucous nature of the cellular tissue, much farther than BORDEU himself, and, consequently, who have denied the existence of cells in the natural state of the part, a disposition is, nevertheless, admitted in this tissue of being separated into filaments and cells, by insufflation, by water, or any other similar causes. On this subject the reader will find very interesting remarks in MECKEL's late work on general and pathological anatomy. At any rate, we have not offered the preceding remarks under the influence of a belief in the correctness of BORDEU's deductions, relative to the power of the wrong direction of the aqueous vapour in producing the morbid changes above alluded to, as we do not hesitate to admit with BICHAT, that "Toutes ces theories que l'inspection ne prouva jamais, répugnent aux lois connues de notre économie, lois qui nous montrent les fluides circulant constamment dans des vaissaux, en vertu des forces vitales, de la sensibilité organique, et de la contractilité de ces mémes vaisseaux, et non s'extravasant ainsi pour se mouvoir irreguliérement dans le tissu cellulaire."

The tone or cohesion, continues BORDEU, as well as its permeability, (*penetrability*) are a little deranged or modified by some condensations (etranglemens) we discover in its interior. They must necessarily alter the direction of the humours, and give rise to some particular relations and resistances on the part of this tissue, very different from those arising from the reciprocal action of those sheaths already alluded to. Many of these condensations may be noticed at the wrists and ankles, &c., but there is one much more singular and remarkable than all these, and which divides the body in two lateral halves. It constitutes the general *raphe* of the body, which has been alluded to in detail in the treatise on the glands. It will not be necessary to dwell here upon this subject, which appears to have been a favourite one with BORDEU, as he has developed in detail his views upon it in several of his works. As we have already remarked, this division of the body into two lateral halves was adopted by BICHAT; but, by him, was restricted to the organs of animal life, and considered capable of distinguishing these from the organs of organic life, which are characterized by great irregularity in their distribution.

> "The innumerable vessels, the nerves and membraneous laminæ, which lose themselves in the cellular substance, give it a much better defined action than that of which we have spoken above (No. LXX.) They animate it, and render it both moveable and sensible, proper for dilatations and extraordinary condensations; this action constitutes, properly speaking, all that of the cellular organ, which is continually agitated, and in a perpetual state of motion of condensation and dilatation; were it even only owing to the action of the atmosphere, which, at each instant, yields more or less to the effort of the vessels or the oscillations of the fibres. This continual motion, joined to the tenacity of the cellular tissue, opposes a mild, equable and graduated resistance, against which the power of the vessels and nerves loses itself, as it were: it appears, besides, that the cellular tissue is sufficiently moveable, capable of resistance and elastic, to retain the degrees of action it receives, with more or less increase or diminution, according to the circumstances. This elasticity, and those movements of the cellular tissue, combined to those of the skin, and of the whole fibrous and vascular systems, keep up and partly establish the tonic movements of VAN HELMONT, which STAHL has so well analysed, and to which many physiologists have recourse in the explanation of the principal phenomena of the animal economy."

It appears from the researches of modern anatomists, that BORDEU's views respecting the *properties* of the cellular tissue were not founded on correct observation. That extensive part of our economy possesses extensibility, as is admitted by BICHAT, who shows that this property is found in greater or less degree in different parts of the tissue. It is also proved by this celebrated physiologist that it possesses contractility, varying in degree at the different periods of life. But BICHAT shows, that, of what he denominates the *vital* properties, the cellular membrane does not manifest, in a healthy state, those distinguished by the term of animal—that it may be cut, drawn, or distended with gaz, whilst the animal, subjected to these experiments, gives no sign of sensibility, the nerves, in fact, merely passing through it, and ramifying, to a certain extent, in its substance. In a state of inflammation, however, sensibility becomes very much exalted in it, and is manifested by considerable pain. The organic properties, on the contrary, are shown to be very well marked in the tissue—as evinced by absorption, exhalation, and organic sensible contractility.

After making some remarks on the action which the constant movements of the diaphragm must impart, through the medium of the peritoneum and pleura, to the cellular membrane of the whole body, and, on the influence which this central muscle and the other organs contained in the epigastric or phrenic region, must exercise from their many nerves, upon the rest of the body, Bordeu proceeds to support his theory of the cellular membrane by observations, and to bring forward practical facts, of which this theory appeared to him, in fact, the natural result. We should premise, however, that, in all his speculations upon the subject. Bordeu seems to have directed his attention almost exclusively to the communication afforded to different parts of the body by the cellular membrane, in a state of health and disease, and to have overlooked a fact noticed by many moderns; but particularly insisted upon by Bichat and Meckel, that, by means of this membrane, the vitality of each organ is isolated—almost completely shut off from even the neighbouring organs, by which means disease of one organ is, in most instances, prevented from progressing to other parts in the vicinity.

In cases of suppuration in the substance of a limb, or in some of the bony layers (we are now using nearly the language of B.) the portion of skin covering the part which suppurates, becomes ædematous. This œdema is merely a swelling of the cellular tissue. It is more or less extensive according to the position and extent of the part suppurating, which indicates a relation to exist between the latter and that which swells, producing a reciprocal action and reaction. This, according to him, proves the existence of the tonic action, which, in a preceding part of the essay, he supposed to exist in this tissue.

Worms in the alimentary canal in children, cause a swelling of the face. During the approaches of the catamenia the same effect is noticed about the eyelids. The various passions of the mind, affections of the gums, of the stomach and hypochondria, occasion a nearly similar effect on the face. This is explainable by the close connexion existing between the cellular tissue of the face, and that of the head, œsophagus, trachea, and all internal parts. It is, in fact, a point on which all parts of the body may act. Some individuals, affected with hydrothorax, who lie on the affected side, are relieved by the accumulation of the water externally; the fluid being carried forward as far as the middle of the sternum, and posteriorly as far as the spine. Bordeu says he saw a leucophlegmatic patient in whom the swelling of the cheek on which he lay subsided, but the tongue swelled to such an enormous size, particularly on the same side as the affected cheek, that it formed a large œdematous mass, protruding out of the mouth. He, in like manner, calls attention to the fact, that suppuration in the finger or wrists will excite a swelling in the axillary glands, whilst suppuration in the feet will produce a similar enlargement of the inguinal glands, and vice versa.

Bordeu further remarks that he saw a case, in which, after a suppuration in the fore arm, the axilla became affected, and next the parotid gland. He also had occasion to notice, that whenever these parts suppurated in consequence of external diseases, the humours penetrated the body by the affected side, after having progressed from the wrists to the axillæ and neck, or from the leg to the knee, groin, &c. All these facts he refers to the communication of the cellular tissue. This of course may occasionally be correct; though we believe that Bordeu's view of the progress of the disease is too exclusive; many cases of diffused inflammation of these parts being explainable on the principle of absorption, which, we all know, is accomplished, not by the cellular membrane, but by the lymphatics or veins. Be this, however, as it may, all the facts we have noticed, and many more, which from want of room we cannot here detail, prove, according to our author, that there exists a reciprocal action in the state of disease, between the external and internal parts, and that consequently the same must hold good also in the healthy condition of the system. After endeavouring to illustrate this position, he confesses that it is difficult to determine with accuracy the precise order of these efforts, and of the derangements resulting from them; nevertheless, he thinks that they are regulated by precise and positive laws, and, in proof of this opinion, remarks

"It is easy to demonstrate, for example, that the derangements of the pleura produce a greater impression on the upper part of the body, on the face, arms and hands, than those of the peritoneum. These act in a considerable degree on the inferior parts, in which it is always necessary to distinguish what depends on the general weight of the whole body, from what depends on the diminution or increase of action of the cellular tissue. There are also some parts of the trunk which act, as it were, indifferently on the superior or inferior extremities. This may be noticed in affections of the liver and spleen, the departments of which extend to the whole of the side in which they are situated. And wherefore does this occur? because these viscera are situated, as it were, at the extremity of the pleura and peritoneum; they are united to the diaphragm, the movements of which extend, as we have already said, upwards and downwards. It is not surprising, therefore, that the parts of the abdomen should occasionally act upon the superior extremities, which those of the chest should act upon the inferior. We have seen tumours in the mesentery give rise to cough, expectoration and dropsies of the chest, and pain of the testicle, correspond to the mamma of the same side. We have also seen swellings in the scrotum, thighs and knees, in consequence of affections of the lungs, &c."

The action of the cellular substance is sometimes evident even in cases in which there is no point of suppuration, as. for example, in rheumatism of the superior and inferior extremities. Those affected with this disease are not able to breathe without experiencing an increase of pain, which is greater during inspiration than expiration, owing to the action (tiraillement) which the motion of the diaphragm occasions in the whole cellular tissue.

Bordeu next proceeds to make the application of his theory of the cellular tissue to the history of diseases, but confines his remarks to those of the chest. Many of the aphorisms and prenotions of Hippocrates, leading to the supposition of the existence between certain organs, of a communication which anatomists could not discover, were rejected as unfounded, although the phenomena of diseases demonstrated daily their correctness, or were attempted to be explained by various and sometimes absurd hypotheses. It is by means of the communication existing between the various parts of the cellular membrane, that Bordeu endeavoured to account for them, and although we cannot concede to him *entire* success, yet we believe that in many cases he came as near the truth as we could possibly have expected him to do. We shall transcribe a few of his observations on the sub ject here, merely to show the manner in which he reasoned pathologically.

HIPPOCRATES remarks (*Coac. No.* 18.) that when suppuration of the lungs is attended with pain in the neck or clavicle, and sometimes about the abdomen, these symptoms announce that the collection of matter is considerable. BORDEU finds the explanation of this sentence in the distribution of the cellular membrane of these parts; since the sack, enveloping the lungs, sends projections (productions) along the trachea and neck, and also towards the diaphragm and abdomen. It is, therefore, evident, according to him, that a large abscess, situated in the respiratory organ, may affect (tirailler) the whole sack, and occasion a remarkable impression towards the abdomen and neck on the diseased side. This, he believes, occurs whether the abscess be contained in the substance of the lungs itself or in the sack of the pleura. He remarks that these phenomena were explained, in the old schools, nearly in the same manner as by him, but that the modern schools diverted the attention of pathologists from this explanation, regarding it as too difficult to reconcile with the laws of the circulation of the humours, in the arterial, venous, and lymphatic vessels.

"We must here, he adds, make a remark which is applicable to the subsequent observations; namely, that we may allude here only to the mode of action of the cellular tissue, and not to that of the vessels and nerves of each part. It is certain that the function of every organ is exercised, in health and in disease, through the medium of the nerves, vessels, and cellular tissue. The only way of combining the action of these three different causes, is to examine them at first, one after the other. We restrict our remarks here to the cellular tissue, and it is to it we refer in a principal manner, the phenomena described in the above sentence of HIPPOCRATES."

HIPPOCRATES remarks (*Coac. No.* 107.) that swelling of the parotid gland may be expected when the breathing is difficult, and accompanied with tension in the hypochondrium, acute fever, and some chills. Also, (No. 128.) that bilious subjects, when affected with acute fever, tension in the hypochondria, and difficult breathing, are liable to abscesses in the vicinity of the ears. Finally, (No. 32.) that those affected with continued fevers, attended with frequent and slight perspiration, and tension in the hypochondria, are dangerously ill, if to those symptoms there supervenes an acute pain in the region of the neck. BORDEU admits fully the correctness of these observations, though he is far from believing that abscesses behind the ears, and acute pain in the neck, invariably supervene in patients affected in the way described by HIPPOCRATES, since, by judicious and active treatment, these accidents are often prevented. According to him, the position and mechanism of the cellular tissue of the thorax, fully serves to explain the first sentence. He thus accounts for the symptoms detailed by HIPPOCRATES. The sensation of tension arises from a congestion of that part of the basis of the cellular sack which is united to the diaphragm, and of the tissue lining all the external surface of the hypochondria. The difficult breathing arises from a similar engorgment in the substance of the lungs of the same side, and in the cellular tissue lining the ribs. The chills are the symptoms of the *irritation and uneasiness of all these membranes.* In these cases, BORDEU thinks that the parotid gland swells, because it is situated precisely at the extremity of the cellular sack of the lungs, at that part at which it is united with the cellular membrane of the interior and exterior of the neck. He adds, though, we believe, rather too much in the spirit of the humoral pathology, that towards this point all the moveable and concreted humours, all the efforts of the disease are directed, and thus form an abscess. We have no room for his explanation of the second sentence, which, he remarks, is a consequence of the first. As respects the third sentence, BORDEU conceives that it may be explained in the same manner as the first. But here, instead of the swelling of the parotid, there is an acute pain in the neck, because the crisis is changed into a spasm, and into a painful effort, which prevent the swelling of the parotid, in the same manner that a violent colic prevents the secretions of the abdominal viscera. It would be better for the patient that the parotid should swell, because, in such a case, the matter would not stagnate in the lungs, and occasion a gangrenous depression. This last effect, BORDEU thinks, occurs in some cases of pleurisy or pneumonia, in which the matter of expectoration penetrates the exterior of the lungs instead of reaching the trachea.

We have already so far exceeded the limits of this article, that we are constrained to omit transcribing several paragraphs we had marked in the volume before us. Our readers must have seen, from what precedes, that although, in the writings of BOR-

DEU, we may readily discover enlarged physiological views, and pathological hints which contrast advantageously with the doctrine that reigned in the schools at the time he flourished, and upon which many of the theories of the present day have been built, he was still too much clogged by an attachment to the humoral system, to have carried the science of pathology to a great degree of *perfection*.

The present work concludes with some strictures upon the views of VAN SWIETEN and BOERHAAVE, in regard to the nature of pulmonic diseases, and to the practice they recommend in such cases. Regarding these complaints as depending, in most cases, on an accumulation of humours in the cellular tissue of the lungs and surrounding organs, he appears to have confided in a great measure in emetics, without neglecting, however, the moderate employment of the lancet. We need hardly say what we think of this hypothesis.

QUARTERLY SUMMARY

OF MEDICAL AND SURGICAL INTELLIGENCE.

I. ANATOMY.

1. *Notice of a double Male Fœtus. By* W. E. Horner, M. D. Adjunct Prof. of Anatomy. *Philadelphia, Aug. 17th,* 1826.

The duplicity in this case, was marked, by the front surfaces of the two trunks adhering together, face to face. From the evidences on dissection, as well as externally, this anormal production had enjoyed uterine life for six months. It had suffered from putrefaction, owing to some delay in getting it; hence, the central portions of the nervous system, that is, the brains and spinal marrows were in a dissolved state, and I was left to the inference of their having been evolved by the state of their membranes, and the abundance of their relics.

One of these fœtuses had the trunk, the head, and the limbs fully developed; for the sake of a short term, and the want of a better, I shall call it the *parent* fœtus; the other was very imperfect, and I shall call it the *parasite.* For the purpose of elucidating a very intricate structure, I shall divide the description into the peripheral or exterior appearance, into the state of the abdomen, into the state of the thorax, and into the vascular arrangements.

Peripheral appearance.—In the parent there is no deformity in the head, the neck, the limbs, and the posterior face of the trunk. The parasite has the head and neck perfect, and as large as in the other; upper posterior part of the trunk perfect; no right upper extremity, except the very imperfect rudiments of a scapula and clavicle; left upper extremity has shoulder, arm, upper half of fore-arm, and a sort of hand hanging loosely by a pedicle at the end of the latter, and having only a thumb and a fore finger. Left lower extremity entirely wanting, not even a vestige of it, or of the os innominatum of that side, for the trunk goes straight down; the right lower extremity looks on a superficial view, as if it were the left; it consists in a thigh, on the left side of the root of which is a tubercle two lines in diameter, and a small pit near it; these may possibly be the rudiments of the external organs of generation; there is a small papilla on the other side of the trunk, which throws a doubt upon the conjecture. The spinal canal is perfect, and by its course enables me to assign the side to the thigh, as the articular surfaces, and the adjoining rudiments of the pelvis were too anormal to point out the fact. In the parent, the external organs of generation were perfect.

The integuments of the thorax of the two were continuous; but on dissecting them, the end of the left clavicle of the parasite was found to have a ligamentous junction with the lower end of the sternum of the parent; their thoracic cavities distinct. The abdomen of the two fœtuses is a common cavity, being a large loose pouch, a very considerable proportion of which is formed by a diaphanous membrane, continuous with the envelope of the umbilical cord; this membrane is double, one lamina is continuous with the skin, and is of course the decidua reflexa, while the other is probably the decidua vera, and is continuous with the peritoneum. The cord is single, and belongs rather to the parent.

State of the Abdomen.—There is but one liver, it hangs from the diaphragm, and is an irregular ovoidal mass, three inches long, and two wide, with a sort of fissure below, for the umbilical vein to enter.

In the parent, a spleen, a stomach, and an intestine, of about half the usual length, reaching from the stomach to the anus—no colon as usual—kidnies and renal capsules perfect; testicles in iliac regions, and four lines long.

In the parasite, a stomach, a small intestine terminating blindly, and about a foot long; no kidnies; renal capsules entire; testicles below them, and about three lines long.

A common diaphragm, or rather the two joining at their anterior margins.

State of the Thorax.—In the parent, a thymus gland—lungs small—heart of natural size and external appearance, but having a free communication between all its cavities. In parasite no lungs,—a thymus gland at the lower end of the heart along side of ascending cava—cavity of thorax consisting in a pericardium—heart of two cavities only, the right auricle and a ventricle, which of course corresponded with the left of the adult, with only a very narrow annular valve at the ostium venosum, not by any means sufficient to affect materially the course of the blood. The ventricle twice as large as usual, thin and having thin scales of bone on its internal surface.

Vascular Arrangements.—The umbilical cord had one artery and one vein, the artery was continued from the right iliac of the parent. The umbilical vein more like an artery, could be traced clearly to the fissure of the liver. In the parent, what may be considered as ductus venosus is one-eighth of an inch in diameter, goes to the posterior part of the diaphragm, and enters the ascending cava; but just before doing so, is joined by a branch of the same size, an inch long, parallel with and just above it; on tracing this trunk it is found to be an arm from a large tortuous ramifying sinus in the centre of the liver. The upper end of this sinus emptied into the ascending cava of the parasite.

In the parasite no descending cava; a venous pouch two inches in length and two or three lines'diameter in front of the spine, lower end closed, but upper end emptying into the auricle. Artery from ventricle very much like a vein; on reaching the lower end of the neck, it divided into four branches, near one another, which in a short space subdivided; these branches could not be traced well from their smallness, but they seemed to go to the head, and upper extremity. The main artery, no valve at its root from the ventricle.

In the parent; the arteria innominata detached a large branch having a course behind the sternum, probably an internal mammary artery, which reaches the lower end of sternum, then passes to parasite, and ascending at the side of its heart, gets to the neck and appears as a common carotid.—Also from the aorta of the parent, just below the diaphragm, a large artery arises, which crosses the ascending cava behind, and passing then to the parasite, adheres to the preceding artery, and ascending along the same side of the neck, seems to have a similar destination.

In the parent an aorta—a pulmonary artery, and a ductus arteriosus; the ascending cava so joins the heart that a probe is passed with equal facility into either of its four cavities.

Owing to the injured state of this monstrosity I could not inject it advantageously, and possibly some important vascular branches escaped notice, notwithstanding a diligent search for them. But if this be not the case, I am entirely at a loss for the explanation of the round of circulation in the parasite.

A leading character in this dissection is the little or rather the no provision made in both fœtuses, to keep the currents of black blood and of red blood, free from one another.

2. *Imperfect development of the cerebral system in monsters.*—Our anatomical section will always be found bare, or filled with researches running in some particular vein, and often savouring more of curiosity than of practical importance. This we say with a certain reserve; as we are of that class who think that a physician will always be a better *practical* man for having an extensive and minute knowledge of anatomy: and, as we never know from what department of knowledge useful science will receive its next illumination, we opine that a physician can never know too much of the structure of the human body, even though no immediate practical application be made of what he is studying, and he follow it only for its interest. This principle of study may almost be considered as forming the true difference between an enlightened physician and the mere empiric or dogmatist.

The real reason why anatomical discoveries of direct, practical application are not numerous, is very well known to all our readers. It is that all the more obvious, larger and more frequently employed portions of anatomy have been exhausted by the geniuses of the preceding ages. Little is left for the ambition of the moderns, but minute refinement and illustrations from the comparative structure of animals; and, where discoveries are made, they are generally involved with physiological investigations.—The present section of our summary will, therefore, seldom cover much space; and, when it does, will probably contain much of the character to which we have just referred.

The subject of monstrosities now occupies a great deal of attention in the French metropolis. It is by no means such a barren collection of unconnected facts as we have hitherto considered; several curious views have been elicited, and some striking and singular hypotheses formed; particularly by the celebrated M. GEOFFROY ST. HILAIRE. In the present state of excitement on this subject manifested by the French physicians, it is highly probable that we shall have articles to notice which will furnish us an opportunity of sketching these views for this melange.

M. TIEDEMANN has published, in the German journal of Physiology, the first essay of his inquiries into the above subject. In order to ascertain the influence, if any, possessed by the nervous system on the development of the fœtus, he asks, and endeavours to reply to, the following questions:

1. When an organ is absent, are its nerves absent too?

2. When supernumerary organs exist, is there a corresponding excess in the number of nerves, or of parts of the brain and spinal marrow?

3. What are those peculiarities in the nervous system, which correspond with a sudden stop put to the development of organs?

4. Is there any peculiar organization of the nervous system, and particularly of the brain and spinal marrow, which universally corresponds to an anomalous organization of the body in general, or of its individual organs; and what is this peculiar organization?

M. TIEDEMANN has collected, in reply to these, a large number of cases, from various authors. Of eight, preserved by himself, he has given the particulars.

Two were instances of congenital division of the soft palate, accompanied with hare-lip. In these, the cerebral hemispheres were entirely united on their anterior part, leaving no mark of their usual division; the convolutions passing, without interruption, from one side to the other. The olfactory nerves were entirely wanting; and, in the place of the ethmoid bone, was found a cartilaginous mass, without any foramina. The thalami were united at their upper part, and the anterior part of the fornix was incomplete in its development.

A still-born child, with a division of the velum palati, an umbilical hernia, and a supernumerary finger on each hand, presented the following appearances. Brain forming an entire mass, without any division into hemispheres; olfactory nerves entirely wanting, as well as the corpus callosum, the anterior crura of the fornix, the anterior commissure, and the pineal gland; the lateral ventricles formed but a single cavity, uniting in front of the thalami.

SŒMMERING and RUDOLPHI cite analogous cases.

A puppy was born without eyes, the orbits being filled with cellular substance. The optic nerves were reduced to two slender threads, originating from the thalami and the *anterior* pair of the tubercula quadrigemina: they passed round the crus cerebri, and terminated, without any union, immediately in front of the pituitary gland. The other nerves of the organs of vision were entirely wanting.

Analogous cases are furnished by MALACARNE, HIMLY and SCHMIDT, OSIANDER and LOBSTEIN, besides others, which are imperfectly described.

A fœtus was born with but one eye, without any nose or other part of the olfactory organs, with a supernumerary finger on each hand, and six toes on the left foot. Instead of the nose, he had a *trompe* fifteen lines in length, hanging from above the eye. The eye had four eyelids, placed in a quadrangular manner. It was in front, oblong horizontally. The brain was a single smooth mass, forming neither hemispheres nor convolutions. The olfactory nerves and ethmoid bone were wanting. The optic nerves entered the orbit without any junction. The eye was double at the posterior part.

In another case, the same external characters were found. The eye was here single at the back part, and there was but one optic nerve, formed by the junction of filaments from both the thalami and both the corpora quadrigemina. The brain formed a single mass, without convolutions or division into hemispheres. It was so small that the cerebellum, corpora quadrigemina, pineal gland and optic thalami, were all left uncovered at the posterior part. The corpora striata were wanting, as were also the ethmoid, os unguis, and os turbinatum inferius.

Our readers will observe that we prefer the terms "tubercula quadrigemina" to those in common use. Since the dissections of SPURZHEIM and SERRES,[*] and of those who have repeated and verified them, it may be considered settled, that the bodies in question are really a single pair. They are found so in all the lower animals, though often increased, as in birds, to such a size as to have been mistaken for the optic thalami; and exactly the same structure exists in the early stages of the human fœtus. The optic nerves draw the remotest of their origins from them; and there is not the least ground for ascribing any difference whatever of office or function to the anterior pair. We conceive, then, that we have a fair right to hope that the absurd and indecent names now applied to them will fall into disuse. We may observe that this has been the case pretty generally among the English; so that we no longer possess their example in our favour.

Another fœtus, examined by M. TIEDEMANN, presented a truly monstrous conformation. In addition to the single eye, and the trunk hanging from above, there was a smaller trunk placed below it. Both jaws, the lips, and the whole mouth, were wanting, except a small opening which led to the larynx and œsophagus, and the rudiments of a tongue, two lines long, attached to the os hyoide. The nasal cavities, all the bones and muscles of the face, the masseters, and the salivary glands, were missing. In the place usually occupied by all these organs, were found two well-formed ears, looking from the sides of the head downwards and forwards, and with their lobes uniting near the perforation which was substituted for a mouth.

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[*] Vide a review of *Serres's* great work, in our first number.

This hideous and appalling object presented a brain, devoid, like the preceding, of hemispheric division and of convolutions, and wanting the pituitary gland, mammillary eminences and olfactory nerves. The optic nerves united into a single trunk previously to entering the orbit. The second and third branches of the fifth pair, the portio dura, and the ninth pair, were all alike absent.

Another example is given, in the monstrous fœtus of a hog; but, as it closely resembles the last case but two, we shall omit the particulars. The cerebral deficiencies were of the same kind. We should, indeed, have been inclined much sooner to look for such trumpet ornaments upon the face of a pig than upon the lordly countenances of our own breed; but nature seems here to have been somewhat inclined to bid

> "Selfish pride confess her *kindred* forms."

Monoculi.—The above catalogue of Polyphemuses naturally seems to introduce a sketch, from the same article, of the anatomical characters generally found in these elegant productions.

This malconformation occurs both in the human species and in quadrupeds—most frequently in sheep and hogs. The female sex seems more liable to it than the male.

It is always characterized by the entire want of the whole olfactory apparatus, including the bones; and, almost always, by that singular trump or trunk, described in the above cases, hanging from above the eye, and evidently forming the rudiments of an external nose.

In many Cyclopean monsters, the mouth is wanting; and, in some, it is replaced by a small trunk. The tongue is here wanting or rudimental; and the whole apparatus of mastication is absent. In other instances, it is only the lower jaw and tongue which are absent. The absence of the mouth is commonly the circumstance on which depends the strange position of the ears, noticed above.

In the Philadelphia Museum are three specimens of puppies, presenting an analogous structure, which were said to have their ears where their eyes should be.

Symphysopsy, as Mr. Breschet calls it, is frequently accompanied with deficient development of the cranium. Double monsters are also liable to it; presenting one eye on each side, and a third, much larger, in the middle.

Four eyelids are commonly found, presenting a quadrangular figure, in the upper and lower angles of which, are caruncula lachrymales and puncta.

The eyeball is always very large, and oval horizontally. Rarely it appears double in front, but more frequently so behind. Two distinct irises have never been found; but very frequently two have been so united as to form a long, oval pupil. The choroid is single, and the retina generally so; but the ciliary body and the humours of the eye, in this respect, follow the iris. There are generally two lachrymal glands, and a very intricate web of muscles.

The brain is unnaturally small, without convolution, division into hemispheres, corpus callosum, or olfactory nerves. Those branches of the fifth pair, which appertain to the nose, exist, but are transmitted to the trunk. The absence of the olfactory nerves is always accompanied with a diminution of the corpora striata, and of the anterior crura of the fornix. Mr. G. R. TREVIRANUS has observed that there is a peculiar connexion between these nerves and the fornix and cornu ammonis.

There is generally but a single optic nerve, formed by the fibres from both sides. Where there are two trunks, there is no semi-decussation. MAGENDIE has stated that he once found a retina, but no optic nerve. M. TIEDEMANN thinks he must have made a mistake, as this result is entirely at variance with the usual course of things.

The absence of the nerves of the fourth always accompanies that of the trochlearis muscle.

The only conclusion of M. TIEDEMANN'S, with which we are furnished in plain terms, is one so obvious from the above, that we shall not recite it. Another article is promised us on the same subject.—*Bulletin Medicale, Avril.*

3. *Imperforate vagina. Infibulation?*—A woman, born in Africa, died at a Parisian hospital, aged forty-eight years, in whom the labia were found united by a regular raphé, throughout their whole extent, excepting a small hole at the bottom, allowing the escape of the menstrual fluid. MM. DUMERIL, DUBOIS, and BECLARD, are strongly inclined to the presumption, that this was produced by the barbarous practice of *infibulation.*—*Ibid.*

4. *Fallopian tubes.*—VON WEBER, professor of anatomy at Leipzig, has found that the Fallopian tubes of the *otter* do not terminate in the peritoneal cavity, but in a vesicle, in which the ovarium is placed; thus rendering abdominal gestation, unless from rupture, impossible. Mr. TREVIRANUS, having been informed of this discovery by the author, found that, in the European Martin, the horns of the uterus terminated directly in a similar vesicle, and there were no Fallopian tubes at all. A suspicion is hinted by M. STOEBER, the analyst, that this was an anomalous case. ALBERS finds a similar vesicle or pouch in the common seal, (*phoca vitulina,*) but does not describe the termination of the Fallopian tubes. LOBSTEIN found the pouch in the *phoca monachus*, but he found no communication between this and the tubes.

Mr. TREVIRANUS inclines to think that there is a similar organization, prevailing in the bears and all the weasel tribe.

In the rodentia, the Fallopian tubes have no fimbriæ. Mr. TREVIRANUS has found, in the guinea-pig, a muscle, whose office is to turn round the ovarium, so as to bring it in contact with the orifice of the tubes.—*Bulletin Medicale, Mai.*

5. *Monsters.*—In the May number of the above Bulletin are accounts from M. LIEBER, of Berlin, of a production of the uterus, which was at first taken for a mole: but which subsequently was found to possess several parts of a real fœtus. Such were a mouth, an anus, the cutaneous rudiments

of a foot, many bones, imperfectly formed, of the head and trunk, the temporal muscle, those of the eye, &c. Neither brain nor spinal marrow was found. All the vessels arose from those of the umbilical cord, without the least rudiments of a heart. The lungs, liver, spleen, pancreas, organs of urine, and those of generation, were absent. A very short intestinal canal was found; and the colon *contained meconium, notwithstanding the absence of the liver.* This last observation militates pretty effectually against the doctrine, which has some grounds, that the black colour of this meconium is produced by carbonaceous matter, which it is the duty of the liver to discharge, during utero-gestation, as partial substitute for the lungs.

Another cyclops is described, from a dissertation by Mr. Knape, also of Berlin.

Another, from the horse, is described by Mr. J. Ruben, of the same city. In this monster, a large tubercle was found at the anterior part of the cranium, from which issued the optic nerve. This was pronounced a thalamus nervi optici. This, with the tubercula quadrigemina, cerebellum, and pons varolii, were all the parts of the brain to be found. The olfactory nerve was wanting, as would be inferred from what we have said above; all the other nerves were as in common.—*Ibid.*

6. *Fœtus grafted into the chest of another.*—Many of our readers will remember a case of this kind, from China, described and figured by Dr. J. K. Mitchell in our highly respected cotemporary, the Philadelphia Medical and Physical Journal; as well as a frightful porcelain model of it, which decks the mantels of some of our medical friends in this city. One of a very similar character has been published, and figured by Mr. A. Rosentiel, also of Berlin. Eyes, nose, bones of the face, and olfactory and optic nerves, were wanting. One tympanum had to serve for two meati auditorii externi, as well as for the *pharynx*, there being no mouth. Two tongues, two ossa hyoidea, one œsophagus, one cricoid cartilage and trachea, the parasite body infixed in the thorax of the principal one, by the neck, the thorax of the parasite filled with cellular matter, and without ribs; two hearts in the thorax of the principal fœtus, one of them with a single ventricle, mixing the two kinds of blood, a single kidney and ureter in the parasite, and the other urinary organs healthy—such were the characters ascertained. The abdominal viscera had been removed, previously to Mr. R.'s investigations. —*Ibid.*

7. *Fœtus without a stomach, head or anus.*—We believe it has been said that no fœtus was ever born without a stomach. Mr. Kalck, also of Berlin, where monsters seem to be in fashion, has given us an exception to this rule, if it be not already disproved. The skeleton commenced at the tenth dorsal vertebra; the thorax was filled with cellular matter; there was no diaphragm; the intestinal tube began with the ileum; there was no liver, spleen, or pancreas, and the uterus was furnished with horns, like that of some quadrupeds. The other viscera were natural.—*Ibid.*

8. *Congenital hydrocephalus, with transposition of the viscera.*—Mr.

NAEGELE, of Heidelberg, has given us a case of an enormous hydrocephalus, which rendered it necessary to puncture the head during delivery. He afterwards found the viscera of the thorax and abdomen transposed from right to left. He mentions another case of the same kind, which, however, only embraced the viscera of the thorax, and inclines to think this coincidence not accidental.

There were hare-lip, division of the palate, and a great diminution in the size of the optic nerve.

The account of the opening, and almost complete effacing of the convolutions, corresponds with SPURZHEIM's descriptions; the corpus callosum was split.—*Ibid.*

9. *Unusual arrangement of the aortic branches.*—Mr. CLEMENT of Paris, is the describer. The *brachio cephalic* artery, or arteria innominata, was wanting; the two carotids were confounded at their origin, and the right originated below and behind the left subclavian, crossing over, with an inclination upwards, behind the left nervus vagus, left subclavian artery and carotid, the œsophagus and the trachea. It lay immediately in contact with the spine and its ligaments, and with the longus colli muscle.

We have seen an article of a very similar kind, in the collection of Dr. HARLAN, of Philadelphia.

M. CLEMENT has obtained no note of the state of health or living peculiarities of his subject.—*Ibid.*

II. PHYSIOLOGY.

Space compels our physiological article to be short.—This is the less to be regretted, as the journals of the last three months do not present so rich a repast in this respect as we have been frequently treated with.

10. *Influence of the great sympathetic nerve on the functions of sense.*—M. TIEDEMANN, in a memoir, read before the Society of the Natural Sciences and Medicine of Heidelberg, has furnished a long inquiry into this curious subject. As, however, the principal part of his task seems to have been to prosecute chains of reasoning, without materially adding to the list of facts already possessed on this subject, our notice of his labours needs not be long: it may be, indeed, far briefer than one would be inclined to expect or wish from the writings of so deservedly eminent a man.

The sympathetic is not, according to M. T., the means of transmission, either of sensation to the brain, or of the influence of volition from the brain to any muscles of voluntary motion. But the internal or external excitations which produce automatic and involuntary movements, seem to be owing to this nerve. One of its most important functions is to unite, so intimately, all the organs, both to the life of nutrition, and to that of relation or voluntarity, and to establish between them such a vital connexion of re-action and sympathy, that the functions may be executed in harmony.

It also presides over that support of the general activity of the organs, which is derived from nutrition.

In the organs of sense, then, the particular object of the present inquiry, the sympathetic acts by regulating the nutrition and secretions of the parts, and their sympathetic motions. Thus, in the first place, the due condition of the aqueous humour, crystalline lens, &c. &c. must be preserved, or the function of sight will be immediately at an end; and this is the product of the functions of nutrition and secretion. The sympathetic establishes a connexion between the impression of light on the retina, and the contraction of the iris: this is also the effect of branches of the great sympathetic.

The nerves of the iris come from the ophthalmic ganglion. He has satisfied himself that, besides the central artery of the retina, the ciliary arteries also send minute branches to the optic nerve and the retina, which arterial twigs are accompanied by minute nervous branches from the ciliary nerves and the ophthalmic ganglion. By this route the contraction of the iris is determined, and not by the intermedium of the retina, as supposed by many writers. This explains the occasional continuance of the motions of the iris, during amaurosis.

We have views of our own in this point which we have taught to others, but this is not the place to enlarge upon them. Our present office is to present the opinions of M. TIEDEMANN.

The reader may naturally inquire why all these functions of the ciliary nerves are set down to the credit of the great sympathetic. We would say, that the expressions used are incorrect. They are functions of nerves belonging to the *ganglionic system*, and of fibres, coming from a ganglion, which is connected with the sympathetic. The usage of Europe seems, however, to admit of the whole ganglionic system as emanating from that nerve.

11. *Cutaneous absorption.*—Dr. DILL, who has recently graduated at Edinburgh, and whose thesis is reviewed in JOHNSON's Journal, gives us a sketch of the opinions and experiments of various writers, ancient and modern, respecting this alleged function. He adds experiments of his own, the results of which varied, he states, "quam maximé."

"Annotatu nihilominus dignum est, quod in omnibus experimentis supra memoratis, exitus esset unus, quadam ex parte saltem generalis. In iis, ubi nihil ponderis accessit, constitutionis jacturam inter immersionem quam antea minorem esse semper compertum est."

From this, at least as far as the reviewer quotes, we can infer, absolutely, nothing decisive, except from the presumed experiments, the history of which is not furnished us in the review, in which the weight was actually increased. We will not blame an essay which is not in our hands; but JOHNSON's analysis of it has not convinced us.

Dr. DILL believes that absorption takes place, in a degree various according to the state of the habit: more during fatigue and exhaustion, and less in proportion to the heat of the bath.—*Med. Chir. Review, July.*

12. *Abstinence.*—An extraordinary case is presented by Dr. Ricci, of Turin. Anna Garbera, silk worker, aged forty years, of a sanguineo-nervous temperament, and enjoying tolerable health, had used but little food for several years, made but one meal per day, and went to stool but once in three or four days.—She passed forty days without eating or drinking; then took some food; and, on September 8, 1825, was seized with an indigestion, after eating some crude aliments.—She was vomited freely, with ipecacuanha: an entire loss of appetite, with dysphagia, continued; and, from that time to January 1st, of the present year, she could take, says Dr. Ricci, neither solids nor liquids, nor did any discharge of urine or fœces take place.

She appears to have been a respectable woman.—Dr. Ricci considers her affection as a neurosis. Our readers will recollect the case of Ann Moore, the fasting woman of Tutbury; which the present case is far from equalling in duration, though perhaps quite as great a wonder.—*Bulletin, Juin.*

13. *Hippomane Mancinella.*—Messrs. Orfila and Ollivier have made experiments on this poison, from which they conclude that it stands at the head of the acrid and irritating vegetable poisons, as the strongest known;—producing violent inflammation of the parts it touches. When applied to the cellular substance, they believe it acts in part by absorption.—*Ibid.*

14. *Cutaneous absorption.*—M. Collard has performed and had referred to a commission of the Academy of Medicine, several experiments, in which he endeavours to show, by measurement, the direct absorption of water, milk, and broth, by the skin. He appears to have forgotten the mechanical absorption of these substances, which always takes place by the cuticle. His experiments did not give satisfaction to the commission, which consisted of MM. Roux, Adelon and Segalas.—*Ibid.*

15. *Regeneration of divided arteries.*—Professor Mayer, of Bonn, has published a series of experiments on this subject. His results agree with those of Dr. Parry.—The artery is found retaining its natural size quite up to the place of division; and at this point, lateral branches, following a tortuous course, are found to have been newly produced, uniting the two divided extremities.—*Ibid.*

16. *Certain mineral poisons—The muriates of barytes, of oxide of uranium and of oxide of palladium,* coagulate the blood when injected into the veins. These three bases are the only ones which produce that effect.

Chromate of potass, applied to the cellular tissue, acts on the bronchia and augments the secretion of saliva, which becomes thick. (A new sialagogue!!) It also produces inflammation of the conjunctiva.

Oxide of osmium produces vomiting, and, in the lungs, excites the exhalation of a serous fluid.

Sulphate of Manganese, injected into the vascular system, acts obviously on the face, produces inflammation there, and augments the secretion to such a degree that "the great vessels themselves are coloured yellow."—*Experiments of C. G. Gmelin—in the Bulletin.*

III. PATHOLOGY.

17. *Are we followers of Dr. Broussais?*—This question has been asked; and, though we think an answer might be fairly inferred from our previous pages, we are too well aware of the nature of medical controversy, to hesitate at giving a distinct statement in return.—Our reply then, is, No.

In planning this journal, among various other considerations, it was held in view, as a measure of importance, to combine men of different habits of thinking, and of various opinions relative to medical doctrines. No other method can possibly ensure entire fairness in setting forth the ideas of others; a merit which is our earnest aim, as far as it is attainable by us.—Our individual views being therefore diverse, the opinions expressed in this section of the work, relative to the French reformer, are only to be considered as those of the single individual who prepares it for the press, not unfrequently differing from that of his compeers, who exercise the same liberty of choice, in their turn.

We are, then, (still speaking under a single responsibility, though convinced each of us is separately of the same way of thinking,) we are, then, *eclectics;* willing and anxious to borrow medical knowledge from every source whence it is derivable.—The experience of a number of eminent men, and a practical acquaintance with the peculiarities and effects of our climate, have produced much valuable knowledge, which we could not, without a sin, reject, in order to comply with any system or doctrine in existence.—America, too, has done more, far more for the medical sciences than the Europeans seem generally to be aware. Yet it must not be forgotten that America forms but a small part of the medical world; and that the inundation of facts from abroad would soon effectually place the rest of mankind far before us, were we to neglect them. Paris, too, is at present, the seat of a prodigious excitement; and the multitude of physicians who are there working for reputation, with only the more ardour, because they have no private practice to attend to, is, perhaps, greater than in any other spot of the known world.* Their enormous hospitals furnish these with an inexhaustible opportunity of acquiring that experience which they have not reached in the walks of private practice. A succession of works of a description eminently *practical,* is constantly issuing from their medical press; purporting to be based upon a congeries of cases attended and recorded before the eyes of numerous students, who examine and compare the notes. Are we then to sit, folding our arms in supercilious contempt of these labours, refuting every new discovery with a conjecture, or slighting every minute and careful description of a morbid phænomenon, with what ought to render it more interesting; the remark that we have witnessed it before, though we never took the trouble to describe it? The answer which would be given to this by the good sense of our countrymen needs not to be waited for.

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* A late statement in a gazette describes the number of physicians in Paris to be 600! In Philadelphia we have about 200.

One word more, before we conclude, to those whose nervous systems are unpleasantly affected by the sound of "*gastro-enteritis.*" Gastro-enteritis really exists! There is such a thing! It is no joke, nor "figment of the brain!" Ay, and leeches to the stomach have been beneficial in fevers, too; and this before abundance of witnesses. Only to refer to our last number, we shall there find, that our venerated townsman, Dr. **MONGES**, in whom so much confidence has been so long and deservedly placed, especially in this particular case, makes a gastro-duodenitis of Yellow Fever. This is the result too, not of hypothesis or authority, but of observation of the symptoms during life, and the morbid appearances after death—a result confirmed as it now is, by the general consent of physicians that this forms at least a leading part of it.

The descriptions of gastric inflammation, given by **BROUSSAIS**, correspond with many of those preserved among the writings of the chiefs of medicine. That which is properly called his school embraces a numerous list of men who add experience to talents. His writings have also had a great influence over the minds of those who have not enrolled themselves under his banners; and the public documents show that the consumption of leeches in the Paris hospitals has increased enormously, perhaps fourfold, since the promulgation of his opinions—thus distinctly proving the *general* influence of a belief in the more frequent existence of local inflammations.—His ideas and general mode of thinking are distinctly visible in many of those essayists who give such a high value to the great French medical dictionaries.—Records of a public character all show great success in the treatment of fevers in the French military hospitals in Spain—a climate very similar to our own, particularly in our warmer latitudes. Many of the present British writers, too, show that they have either borrowed ideas from this modern school, or that they have been led, by observation and reasoning, to analogous principles; as, for example, Dr. **SCUDAMORE**, in treating of the gastric origin of gout. At the same time, then, that we acknowledge, what we hold it hardy to deny, that gastric inflammation is a fertile source of the symptoms of most fevers, and that there is much reason to believe that inflammation or weaker irritation in the viscera is by far the most frequent cause of the continuance of disease, we are far from feeling obliged to bind ourselves to a *school*. We conceive it to be the duty of every practising physician to compare conflicting opinions, form at least some idea of them, and select from among them those which correspond the most nearly with nature.—Nature, then,—observation and experience are to be sought without ceasing; "nocturna versate mane, versate diurna;" and it is to this test that *doctrines* are to be brought. That practitioner must be indeed in the wrong, who adopts a new code of opinions, on account of its apparent consistency with itself, without seeking earnestly to compare it with the reality; particularly if he have had opportunities of seeing this reality in the previous part of his life.—Neither ought prejudices to forbid our benefiting ourselves by the writings of those who are labouring to improve medical science, because we have been educated in a different manner.—*Catechisme, et Journ. du Medicine Physiologique, Johnson's Review, &c.*

18. *Influenza.*—This prevailed, last January, in Paris. *Vide Journal de Broussais, February,* 1826, where there is an admirable description of this disease, exactly as it appeared in Philadelphia. It also appeared in Quebec.—*Quebec Medical Journal, July,* 1826.

19. *Diarrhœa infantum* was rife at Quebec, but not the distinct cholera of adults.—*Ibid.*

A very large portion of the population of Philadelphia, adult and infantile, have been affected with diarrhœas during this summer.

20. *Tetanus.*—Dr. Milo L. North has published what he styles a case of *pseudo-tetanus,* arising after a severe day's work, with a "stone-bruise" in his heel. The heel was opened, and the patient recovered in twenty-four hours, after the administration of upwards of forty grains of calomel, half an ounce of laudanum, some Dover's powder and "considerable æther," besides injections. The case seems to have exhibited severe symtoms. Spasms of great violence every ten minutes; but neither pain, permanent contraction of the neck, nor apparent marks of disease in the alimentary canal.—*New England Journal, July.*

21. *Small pox.*—Dr. Blaud, of Beaucaire, has published an account of an epidemic small pox, which appeared at Beaucaire, in France, and his memoir was reported on by M. Bally, to the Royal Academy of Medicine.

In the report, the epidemic which has appeared at Paris was compared with that above cited by the reporter.

At Beaucaire, the small pox appeared to originate *de novo,* without being imparted, so that, according to M. Blaud, it is liable to be generated anew, "by the simple disposition of the air or of our organizations," and that we can never hope to annihilate it by vaccination! M. Bally, on the other hand, believes that germs of this disease are, at present, diffused universally; and that they are only developed by the co-operation of external agents.

This hypothesis, (the other professes to be the record of a *fact,*) reminds us of a report which we heard from a place in the upper part of New Jersey, where the same occurrence was stated to have taken place.—Can any correspondent give us an account of it?

At Beaucaire, one in ten of the cases occurred in a person previously vaccinated, and ran its course without complication, exhibiting a small number of distinct pustules, which left no traces, devoid of the fever of maturation, and having a favourable termination. At Paris, among 584 cases, "57 had the varioloid, and 42 varicella," and of these 99 last, 65 had been vaccinated with success, and 2 had had the small pox before.

M. Blaud ascertained, that, at Beaucaire, among two thousand, two hundred and eighty individuals who had been subjected to vaccination, six, nine, or, at most, eleven, were affected by this epidemic. He lays down the following theoretical proposition: that the preservative effect produced by the vaccine disease is only complete when the number of pustules produced is in a certain proportion to the susceptibility of the patient to small pox, the requisite number being never less than two, and when, at the time of vaccination, there exists a favourable condition of the organization. He thinks, on these principles, that, of every twenty patients which he has seen, affected by small pox after vaccination, not more than eight can be justly considered as having really undergone the latter disease.

Dr. Pierre Dufresne, of Geneva, has published a long account of an epidemic varioloid disease which occurred at and around Chesne, in Switzerland, in 1822. His history of the disease corresponds in every respect with those which occurred in England and here, and we shall not occupy space by copying it.

His account of the differences between varioloid disease and chicken pox, is worthy of an analysis. These differences are not well characterized; but they exist—varicella is *never contagious!!* consecutive varioloid always is so: varicella has a regular and fixed progress; varioloid has not such, but produces successive crops of pustules, (vesicles:) the chills are more severe in the varioloid, the fever higher, and the anxiety about the præcordia more exhausting.

Varioloid never appears but when it accompanies small-pox, and can never occur spontaneously, or without exposure to contagion.

Of 106 patients affected with varioloid disease after vaccination, there had been vaccinated

less than 2 months	2 to 6 months	6 to 12 months	1 to 5 years	5 to 10 years	10 to 15 years	15 to 20 years
1	2	4	34	36	20	9

From this table, M. Dufresne very fairly concludes that length of time has no effect in weakening the protection derived from vaccination. Other evidence from the British Islands, as is well known, goes to prove the same thing. The contrary doctrine, which never was any thing more than an hypothesis, was referred particularly to the physicians, by the magistracy of Geneva.

One single case occurred in which a confluent small-pox of sufficient violence to disfigure the person, took place in a girl who had been vaccinated in both arms. M. Dufresne has satisfied himself, from a careful investigation of the evidence, that there is room to believe that this girl's vaccination was not a regular one. It was done by a person who was not a physician, and who never saw her afterwards to judge of his success. Nevertheless, she had "marks of vaccination," as M. Dufresne calls them, visible on her arms.

M. Dufresne comes to the following conclusions:

1. The vaccine and the variolous virus have an identical action on the animal economy.

2. This action destroys a part of the capacity for undergoing variola or vaccination with which each individual is endowed.

3. By means of the portion of this susceptibility which remains, each individual is capable of contracting a second small pox or a second vaccine disease, of a nature different from the first, more mild and shorter.

4. To develop this remaining capacity, it is only necessary to apply a sufficient quantity of the virus in a suitable manner.

5. It is more difficult to develop it after the variolous virus, than after vaccination, and vice versa.—There is an error of the press which makes the writer exactly contradict himself in this point. We give it as we understand it, but under a liability to misapprehension.

6. The consecutive affections which result, are, in both cases, abortive during their inflammatory stage; are propagated by inoculation with matter similar to themselves, and have other strong points of mutual resemblance.

From these considerations, M. Dufresne thinks that two operations are necessary to destroy the variolous liability in any individual; but whether we are to vaccinate twice, inoculate twice, or do first one and then the other, and, in the last case, which of them we are to do first, he does not conclude. American experience has abundantly shown, that a very general vaccination, even though not absolutely universal, is quite able to render the adjustment of these questions unnecessary, by extinguishing small pox altogether, during periods of a dozen or twenty years at a time; and, when highly wrought epidemic causes come among us, breaking down our ordinary barriers, of completely limiting and checking the destruction caused by the complaint, and finally, following its retreat, like a harrassing corps after a flying army, ensuring its rapid and total extinction.

M. Dufresne subjected a patient who had been vaccinated, to 24 inoculations at a time, and another, who had had the small pox, to 48. Each inoculation was by a scratch (moucheture) 6 lines long. Both had varioloid disease of exactly the same character.

Dr. Schleiden, of Hamburg, states that there were collected, at that city, reports of 1684 patients, of whom 1189 were affected with real, and 495 with modified small pox. Of these there were

	Under 10 years of age	From 10 to 20	From 20 to 30	From 30 to 40	Above 40
	595	892	199	36	12
The mortality was	1 in 6¼	1 in 10¾	1 in 4	1 in 1⅓	1 in 1½

Thus exhibiting the ages most liable to infection, and those at which the disorder proved most mortal.—*Archives and Bulletin.*

IV. THERAPEUTICS, MATERIA MEDICA, AND THE PRACTICE OF MEDICINE.

22. *Tincture of Iodine in Gonorrhœa, Bubo, Scrofula, &c.*—In the preceding numbers of our journal, we offered some remarks upon the benefit derived, in the treatment of several diseases, from the employment of the various preparations of iodine, and gave a condensed analysis of Dr. **Manson's** excellent work on the subject. Since that period, we have had ourselves several opportunities of witnessing, in our own practice, the advantageous effects that may be derived from a careful use of this powerful remedy, and intend, as soon as we have sufficient leisure, to lay a detail of our cases before the public. In the mean time, it may not be improper to caution the younger part of the profession against an unguarded use of this medicine, as we think we have, on one occasion particularly, in which it was prescribed for the cure of deafness, seen it aggravate a pulmonary complaint under which the patient was labouring. In his Toxicology, **Orfila** concludes, from his numerous experiments, 1st, that iodine, when given in small doses, is a gentle stimulant; 2nd, that in large doses it causes death, unless ejected by vomiting; 3d, that when applied externally, it does not destroy life; 4th, finally, that it must be classed among the corrosive poisons. These facts have been confirmed by so many high authorities, that we deem it unnecessary to enlarge upon them here. We shall merely add, that as iodine is a powerful stimulant, it should be carefully abstained from when the stomach and bowels are in a state of irritation or phlogosis. Used with these precautions, we think it will be found highly beneficial in several of the complaints enumerated in our former number; and, if Mr. **Richond's** observations may be relied upon, in none more so than in cases of gonorrhœa and buboes. This very intelligent physician, whose experience in the non-mercurial treatment of syphilis has already been alluded to by us, appears to have been the first to employ the tincture of iodine in these diseases. So early as March, 1824, he published in the Archives Générales a memoir on the subject, in which, after some general remarks on the effects of this medicine on the system and its modus operandi, he details ten cases out of fifty in his possession, of gonorrhœa, and eight of buboes, all of which were cured in a short time.

Since that period, Mr. **Richond**, whose opportunities at the military hospital of Strasburgh are very considerable, has made farther trials in these diseases with this remedy, and has commenced their publication in the Annales de la Medicine Physiologique, the number of which, for May last, contains the detail of many cases of gonorrhœa treated with iodine. As respects Mr. R.'s mode of using this medicine, it appears that he does not prescribe it until the symptoms of inflammation have been moderated by leeches, diluent drinks, low diet, tepid bath, &c. When, by these means, the pain has been diminished, and the discharge continues copious, at that period in fine, in which too many practitioners resort to astringent injec-

[illegible] occasionally so much difficulty, even by the aid [illegible] to arrest the complaint, Mr. R. prescribes the [illegible] in a short time, to effect a cure. We do not hesitate to r[illegible] a trial of this remedy.

Since writing the preceding remarks, we have received the number of the Annales de la Médecine Physiologique. It contains some further observations by M. Richond, on the efficacy of iodine in gonorrhœa. Twelve cases are related: in one, the patient was affected at the same time with ulcers and buboes; in another, the gonorrhœa had resisted the employment of copaiva. In all the cases, the iodine was successfully administered.

By Dr. H. A. Goeden, (Hufeland's *Pract. Heilkunde,*) we are told that in his practice, iodine has proved very successful in scrofula. It was exhibited in four cases. The subjects were from six to twelve years of age, and had exhibited symptoms of the disease as early as the second or third years. The principal symptoms were, swollen and œdematous face; enlarged and hard abdomen arising in great part from swelled mesenteric glands; glands of the neck hard and swollen; in various parts of the body particularly upon the inner side of the legs, a moist, impetiginous, scrofulous eruption, which formed an acrid fluid of so caustic a nature, as to excoriate and inflame the parts in contact with it; in all these cases there was tinea capitis and severe scrofulous inflammation of both eyes. In one of the cases, this symptom was most distressing, both the patient's eyes having been closed for nearly three years, the eyeballs being constantly covered with a copious puriform fluid. Under these unpromising circumstances, and after the ineffectual use of all the remedies commonly resorted to in scrofulous diseases, the tincture of iodine was administered in suitable doses; aromatics were prescribed at the same time, both internally and in the form of baths, and in a short time a radical cure was effected. From these causes, Dr. Goeden concludes that iodine is the most effectual remedy in confirmed and fully developed scrofula, and particularly when the eyes, the skin, and the glands, are diseased.

The same author relates two cases of fluor albus acris or malignus, of six years' standing, in which the iodine was successfully administered.

23. *Acetate of lead and tincture of opium in dysentery.*—The use of saccharum saturni in acute and chronic dysentery is not of recent origin, as we find it mentioned by some of the writers of the preceding century. In this country, it has occasionally been used in bowel complaints by Dr. Irvine of South Carolina, by Dr. Harlan of this city, and our readers will recollect, that in the first number of this journal we inserted an essay on the use of this remedy in dysentery, cholera infantum, &c. by a very intelligent physician, Dr. Mitchell, of Frankford, Pa. By most of these physicians it was combined with opium, and found highly serviceable in relieving the tormina, and arresting the bloody discharges so frequently attendant on dysentery.

We have been induced to offer these remarks, from having noticed, in the July number of the Edinburgh Medical and Surgical Journal, a communication on the effects of these remedies in dysentery, by Dr. Ulic Burke, of Dublin.

Dr. B. does not seem to have been acquainted with the above publications, as he remarks that "the acetate of lead has been often employed in this (dysentery) as well as other diseases, where a powerful astringent has been required; it has also been given (as in the present cases) in conjunction with opium:" to this, he adds that he does not know that it has ever been used to the extent he has done. It will be found, on comparing Dr. Burke's cases with those published by Dr. Harlan particularly, that the latter used the medicine in even larger doses than Dr. B. and also in the early stage of the disease. Be this, however, as it may, Dr. B. seems to have derived great benefit from the acetate of lead in combination with opium. "I was induced, he says, to give a decided preference to this remedy, from its peculiar mode of action. It gave almost immediate relief to the constant tenesmus, which in most cases was highly distressing." But although Dr. B. speaks thus advantageously of the remedy, he remarks, "I am very, very far indeed, from wishing to propose the acetate of lead and opium as a panacea in every case or every species of dysentery." The following are the circumstances under which he would propose its employment. "When the patient is low and weak, either from the continuance of the disease, or from previous bad diet; when the abdominal pain is not constant, not much increased on pressure; when there is little or no fever; and when the tenesmus and exhausting flow of blood from the intestines, form the principal subject of complaint."

We will not pretend to recommend an imitation of the practice, although we are very far from wishing to convey the least doubt of the success which Dr. B. and our medical brethren in this country have derived from these remedies in dysentery. Every practitioner forms, or at least ought to form, an opinion of the efficacy of any remedy in any complaint, from what he has himself seen; this being the case, we may take the liberty of stating, that although our experience with the sugar of lead has not been very extensive, we have seen a sufficient number of trials of it to justify us in expressing the opinion, that *in general* it will not be found as *efficacious* and safe a means of combatting the tormina and tenesmus of dysentery, as we might be led to believe. We have indeed seen it in more instances than one, exasperate these symptoms, and enhance greatly the danger of the case. At any rate, we think it probable that if it can be serviceable in dysentery, it can only be under the circumstances specified by Dr. Burke.

24. *Of the powers of digitalis in palpitatio cordis.*—Messrs. Blaud and Comte have lately published (the former in the Nouvelle Bibliotheque Medicale, the latter in the Journal Générale de Medicine,) cases illustrative of the efficacy of digitalis in palpitations of the heart. Mr. Blaud's cases, as well as one of Mr. Comte's, are presented as examples of true idiopathic nervous palpitations; the second case, described (rather too minutely) by

Mr. C. is attributed by him, with what foundation we leave it to our readers to judge, to a spasmodic swelling or puffiness of the heart, (*boursoufflement spasmodique.*)

The following, described by Dr. BLAUD, we transcribe, as abridged in JOHNSON's Medico-Chirurgical Journal for July. A man, forty-eight years of age, entered the hospital (of Beaucaire, of which Dr. B. is chief physician) on the twenty-ninth of May, having laboured under palpitation of the heart for two months, which had come on suddenly, and without any known cause. The pulsations were rapid, tumultuous, and could not be analyzed by the stethoscope. The patient heard them distinctly himself. The pulse was small, quick, irregular, and intermitting. The respiratory murmur was heard throughout the chest, but yet there was oppression of the breathing. The lips were pale and slightly blue. The man could not lie down at all; no swelling of the lower extremities; digestive organs regular in function. Two grains of digitalis thrice a day. 30th and 31st. The same state: same prescription. June 1st. Considerably better; the same medicines continued. 2nd and 3d. The digitalis was increased. 4th. The pulse was down to thirty-eight, but very irregular. The pulsation of the heart could scarcely be felt. Three grains of digitalis thrice a day. The medicine was continued till the eighth, and then suspended. The pulse was still at thirty-eight in the minute, but regular, and all palpitation gone. The pulse soon arose to forty-two, but not higher, till he left the hospital, which he did in a few days, feeling quite well.

We do not offer this case, although the patient ultimately recovered, as an example of safe practice: for the pulse having been reduced on the fourth of June to thirty-eight pulsations, we think it was somewhat hazardous to persevere in the use of the medicine until the eighth of the same month. Dr. BLAUD himself properly cautions the practitioner to watch the effects of the digitalis, and immediately diminish the dose or withdraw it entirely, whenever the pulse sinks below the healthy rhythm, a precaution which he himself does not appear to have attended to in the foregoing case. Dr. B.'s third patient died, as he himself acknowledges, from a too powerful action of the remedy upon the central organ of the circulation.

The following signs are offered by Dr. B. as serving to distinguish these spasmodic palpitations from those which depend on organic diseases of the heart or great vessels. "In nervous palpitation, he says, the palpitations of the heart are unequal, irregular, intermitting, sharp; the heart appears to bound; the extent of pulsation against the ribs is not greater than natural, and the sound of the heart's action is not different in *kind* from that which is heard in health. These signs, though few in number, appear to me sufficient to distinguish nervous palpitations from all other irregular actions of the heart, depending on organic diseases, while its occasional cessation, long duration, sudden disappearance, and unexpected return, together with the absence of those symptoms peculiar to carditis, hydrothorax, &c. leave no doubt in the mind as to the nature of the affection."

We believe with Dr. JOHNSON, that this diagnosis will not always be found correct.

Mr. CONTI's cases are interesting, and corroborate the opinions of Mr. BLAUD respecting the efficacy of digitalis in spasmodic palpitations. We have not room, however, to transcribe them here.

25. *Tartar emetic ointment in Epilepsy.*—In the April number of the Med. Rep. of London, Dr. CARTER, Physician to the Kent and Canterbury Hospital, continues his reports on the cases that were treated by him at that institution. In the present communication five cases of Epilepsy are given, in which it appears the tartar emetic externally applied, proved a very efficacious remedy. In the first case the patient had been affected with the disease ten years, and never free from the attacks a fortnight. In the second case the disease had continued seven years,—the fits returning sometimes several times a day. The third and fourth cases were recent. The fifth was of about a year's standing, and appears to have been the consequence of a blow on the nucha. In the first four cases the ointment was applied to the arm, and the sores allowed to suppurate for sometime; internal remedies, as laxatives in the first case—ol. tereb. in the second, calomel and antimonial powders in the third. In the fourth, general bleeding, mercurial and saline purgatives were resorted to, as well as leeches to the temples. In the fifth case, leeches were applied to the site of the blow—aperients were prescribed, and the antimonial ointment was applied to the shaven occiput. The first patient was discharged, cured in about three months from the application of the ointment. T[illegible]econd was not cured, but the fits were rendered bearable. In the third, the fits were prevented during two months; no sooner, however, were the sores closed, than the disease returned—the ointment was once more resorted to, and the patient had no fits for three months, when she was discharged. The individuals of the fourth and fifth cases were also cured, or at least relieved up to the time of writing the report.

These cases are certainly highly interesting, showing, as they do, the advantage that may be derived in epilepsy from a persevering employment of a powerful revulsive. We are not at all willing to attribute, in these cases, any specific effect to the tartar emetic ointment, or to admit more benefit from it, than could have been derived from any other revulsive means, of *equal* strength, and equally long used. So far, indeed, from entertaining this opinion, we think it very likely that strong blisters, the ammoniacal caustic of Dr. CONDRET, or the actual cautery would have been found as beneficial in the above cases as the tartar emetic, which, however, deserves the preference, as being more easily kept in a state of suppuration than the former, and less painful than the others. At any rate these remedies can only be viewed as auxiliary means, and should in but few cases only, be relied upon to the exclusion of other remedies, in the treatment of this formidable malady.

26. *Antiphlogistics in recent cases of Epilepsy.*—The June number of the

es d ledecine Physiologique, contains a short but sensible essay on he cerebral irritation called Epilepsy," by Dr. Duecq, of Moulins, in nce. Dr. D. relates three cases of the disease, in which the antiphlo- c plan appears to have been sufficient, without the use of *specifics*, to t a cure. In one of the cases the patient was eight years of age, and had been affected with the disease eight months. The fits returned every twenty or twenty-five days: The face was red, the looks stupid, the head large: during the paroxysms a little blood was discharged from the nose. About eight days before the usual period for an attack, leeches were applied behind the ears, and in the nostrils; the warm bath was directed, and cold affusions to the head. By this treatment the fit was retarded more than two months. It occurred on the 27th of August, but was as violent as the preceding ones. The antiphlogistic treatment was continued; on the 16th of October a slight attack; leeches to the arms, cold applications to the head. On the 2d of January a rather more violent attack—same treatment continued—leeches applied to the temples every twenty days. This plan was persevered in during six months, and up to the time of publication the patient had been free from the disease.

In another case the disease was recent—the attacks recurring nearly every month for some time—afterwards less frequently. The antiphlogistic treatment, consisting of general bleeding, of leeching to the jugulars and anus, and a low diet, was successfully resorted to.

In the third case the disease was complicated, with gastric irritation. The treatment which consisted of general bleeding, leeches to the jugulars, anus, and epigastrium, was completely successful.

27. *On the efficacy of Nitrate of Silver in the treatment of Zona or Shingles.*—This disease, which by Bateman, Plumb, and other English writers, is denominated, after Suavage, *herpes zoster*, and by Alibert, *dartre phlyctenoide ou Zone*, is exceedingly troublesome to patients, and on this account, deserves to attract the attention of the physician. By Dr. Bateman it is said, that "it is scarcely necessary to speak of the treatment of a disorder, the course of which scarcely requires to be regulated, and *cannot be shortened by medicine.*" Although we cannot, in this country, admit, in all cases the correctness of this latter part of the above sentence, having seen the disease yield occasionally to the local employment of corrosive sublimate, Citrin ointment, and the like, we are nevertheless disposed to regard it as among those that are the most difficult to cure. From this circumstance we have been induced to direct the attention of our readers to a short essay published by M. Ernest Geoffroy, in the number of the Revue Médicale for April 1826, on the local application of lunar caustic in this complaint.

"The analogy" says Mr. G. "which this complaint presents to small pox, suggested to Mr. Serres a mode of treatment of which no physician had hitherto made use. It occurred to him that the ecroctic method which had been successfully employed in some cases of small pox, might be beneficially applied to the treatment of zona. The object of this ingenious means is to relieve the patients from the acute pains they experience even a long time after the complete removal of the eruption."

Mr. G. relates three interesting cases—the first of which was communicated by Mr. Serres; the second observed at the Val de Grace, and the third treated in the service of Mr. Lisfranc and under the immediate charge of Mr. G. In all these cases the treatment was completely and quickly successful.

We may add here, that although Mr. Serres may deserve credit for first using lunar caustic in this particular species of herpes, other physicians have certainly employed it long before him in other species of the same disease. We ourselves, more than six years ago, had occasion to treat in a boarding school of this city, more than twelve young ladies affected with *tetter*. Lunar caustic was the only means resorted to, and proved highly successful. We have ever since pursued the same practice in such cases. We do not state this with a view of claiming the credit of originality, as we had before seen the remedy used by other practitioners.

28. *On the remedial effects of Camphor in Acute and Chronic Rheumatism.*—The number of the Revue Médicale for May last, contains a long essay on the remedial effects of camphor in acute and chronic rheumatism, which we think entitled to some notice in this place. The author, Mr. Dupasquier, endeavours principally to show the advantage that may be derived from the camphor fumigation, in cases of flying rheumatism. Whether or not camphor has been long used in this form in this complaint, and whether the credit of originality in this respect is due, as maintained by Mr. Dupasquier, to M. Cheza, who published some observations on the subject in a thesis presented to the faculty of Paris in 1808, we shall not here pretend to decide; sure it is, however, that we find nothing in relation to it in the best works on that disease, or even in Mr. Rapou's elaborate work, "sur la medecine fumigative." Be this as it may, Mr. D. after relating several cases illustrative of the efficacy of this means, and which seem to us pretty conclusive, offers some observations on the modus operandi of camphor in rheumatism and other complaints, when used internally, or when employed as an external application. We cannot enlarge upon the subject here, but content ourselves with stating that from Mr. D.'s researches, it follows that camphor, though entitled from its effects, to the appellation of a local stimulant, produces secondarily a sedative action on the nervous system. Considering rheumatism as a nervous disease, he remarks, that, we may conclude that camphor when applied externally in the form of fumigation, puts a stop to acute rheumatism, "by destroying the inflammatory state by means of a powerful revulsion, and after its absorption by the skin and pulmonary organ, by combatting the general and primitive cause of this disease by means of its secondary effect, which is a true sedation of the nervous system."

Mr. D. remarks that camphor may be used in rheumatism either internally or externally. He prefers the latter method, and as we have seen, applies the remedy in the form of vapour. He adds that he has usually succeeded in this way, and has not found it necessary to employ it at the same time by friction and internally, as was done by Mr. Cheza. In some cases, Mr. D. makes use of general and local bleeding before resorting to the fumes of camphor.

Mr. D. recommends, for the administration of the fumigation, one of the basins invented by Mr. Rapou. If, however, this apparatus cannot be procured, he causes his patient to be seated on a chair, situated over a small furnace covered over with a metallic sheet. A large blanket is next thrown around the patient, extending from the neck, where it is made tight, to the floor. Every five minutes a tea spoonful of powdered camphor is thrown upon the metallic sheet. The remedy is immediately vaporized, and all the parts of the body with which it comes in contact, are seen covered with perspiration. This operation is to be continued three quarters of an hour or a full hour, according to the strength of the patient. He is next placed in bed still wrapped up in the blanket, by which means perspiration is kept up for one or two hours longer, and the absorption of camphor promoted. When the patient, from excess of pain, or from debility, is unable to get out of bed, the fumes of camphor may still be applied, by throwing a quantity of the remedy into a hot warming pan, and passing it under the bed covers, alternately to the right and left of the patient.

29. *Examination of the question, whether the Medical use of Phosphorus internally, is useful, injurious, or equivocal?*—In a late number of the Annali Universali di Medicina, Dr. Pietro Moscati has published some interesting and useful observations upon this subject; the summary of which we copy from the July number of the Edinburgh Medical and Surgical Journal. "Several attempts have been made to introduce this substance into medicine, particularly in Germany and Italy; but great doubts have justly been entertained by some of its safety, and by others of its efficacy. The observations of Moscati will account for the discrepant results which have been obtained by different individuals. He sets out with remarking, that as Phosphorus possesses the power of burning at a low temperature, in air, and in some other gases containing oxygen, there can be little doubt that it must also sometimes catch fire in the stomach; that as the æriform fluids in the stomach, sometimes do not contain any gas capable of supporting its combustion, it may escape acidification, and that these two circumstances, will account for its acting sometimes merely as an active stimulant, sometimes as a corrosive poison. In the way in which it has usually been administered, it exists generally in its simple state; for he has found that when reduced to fine powder by agitation in boiling water, and then made into an electuary, or when given in solution in alcohol, and æther, it continues in the state of phosphorus. Some physicians have observed it to have no effect at all, either as a poison or as a remedy. The reason is, that when dissolved in alcohol or æther, it separates, in a short time, almost

entirely into the state of fine powder; so that there can never be any certainty of the dose, if the solution is not recently made. For these reasons, he suggests that it ought to be discarded from medical practice altogether."

We cannot too strongly recommend this suggestion to the attention of our readers. We have long regarded it as the height of folly, to prescribe or even to sanction the administration of a remedy of so dangerous a nature, particularly, as it must of necessity be ventured upon by inexperienced or ignorant hands, and thus become, on many occasions, a source of infinite mischief to the unfortunate sufferer. In our humble opinion, medicine gains nothing by such dangerous weapons; for even allowing, that, in a few cases, they are productive of *some* benefit, this effect is counterbalanced by so much evil, that the sooner they are erased from the list of remedial agents, the better.

30. *Nitrous Acid and Opium in Dysentery, Cholera, and Diarrhœa.*—In the Edinburgh Medical and Surgical Journal for July last, THOMAS HOPE, Esq. Surgeon at Chatham, has published some "observations on the powerful effects" of the above mixture in bowel complaints. After some prefaratory remarks, Mr. H. informs us that he was made acquainted by accident, more than twenty-six years ago, with the efficacy of this remedy in dysentery. Since that period he has continued to use it with unvaried success, in all cases, in his private and public practice. "In 1821, many cases of cholera and diarrhœa occurred on board the Ganymede, of which I was Surgeon, all of which were treated successfully with the acid mixture. In 1824, in the month of September, seventy-one cases of disorder of the bowels occurred, many of which were remarkably severe. Not one of the patients died: not one of them had occasion to take more than five doses; the greater number only two; and one only had occasion for medical attention beyond the second day, as may be seen by the books of H. M. S. Dolphin, of which I was then Surgeon. On board the same ship, in July 1825, no less than 264 cases of colic, dysentery, cholera, and diarrhœa occurred, owing in a great degree, to the unusual and intense heat of the weather, which was severely felt throughout the kingdom. Of these, not one died: and eighty-five were so soon relieved, that they were scarcely absent from duty, the acid having so speedily produced its usual good effect."

Mr. H. confesses that most of these cases were very slight; but, he adds, "I am fully persuaded, that out of such a number of cases, two or three at least of them, under the ordinary treatment, would have proved either lingering or fatal. The form of the medicine, as I have used it in all the cases here referred to, is as under:

R. Acid. Nitrosi	ʒi.
Mist. Camphor	℥viij. misce et adde.
Tinct. Opii	gtt. xl.

S. One fourth part to be taken every three or four hours

"A small addition of sirop of red poppies improves not only the appearance of the mixture, but, in some instances, it has appeared to increase its effects.

"In chronic dysentery, the dose of two ounces three times a day, is quite sufficient: the remedy is grateful to the taste, abates thirst, soon removes the intensity of pain, and procures, in general, a speedy and permanent relief. No previous preparation is required for taking it, nor any other care whilst taking it, except the keeping of the hands and feet warm, preserving the body as much as possible from exposure to extreme cold, or currents of air, and making use of warm barley water, or thin gruel, and a diet of sago or tapioca."

Mr. Hope adds that he tried *nitric* instead of *nitrous* acid, but found it not in any way beneficial to his patients.

One of the editors of this journal has availed himself of Mr. Hope's recommendation concerning nitrous acid and opium. He has used Mr. H.'s formula in a bad case of dysentery, which had resisted a great variety of treatment. The patient assured him that his calls to the stool were repeated frequently every five minutes—in spite of opium and sugar of lead—of injections of laudanum and starch, &c. The case yielded in twenty-four hours to Mr. Hope's formula. It has since been employed in two cases of cholera infantum with most speedy and salutary effects. In a case of cholera in an adult, it operated like a charm, and in five or six cases of disordered bowels, it has fully come up to the high character claimed for it by Mr. Hope.

31. *Tartar Emetic in Pneumonia Biliosa.*—Dr. Samuel A. Cartwright, of Natchez, has published, in the July number of the Medical Recorder of this city, some observations on pneumonia biliosa. His principal object seems to us to have been, to show the advantage that may be derived from a *very bold exhibition* of tartar emetic, in certain cases of this disease, in which the skin remains cold, and an unequal re-action takes place in the system. After remarking that under such circumstances, although there exists an inflammation of the lungs, the lancet, purgatives, &c. are inadmissible, he adds, "The tartar emetic, then, in cases like the present, in which too much blood is determined to the head and lungs, and too little to the surface, cases in which there is an inflammation to be subdued, but not enough of fluid left in the system by the previous evacuations, to enable the lancet, purgatives, &c. to subdue it, yet too great local determinations to admit of opiates, tonics, or stimulants, is the best remedy with which I am acquainted, to subdue inflammation, with the least expense of fluid, and with the least loss of strength." After perusing this extract, our readers will perhaps exclaim, that whatever may be thought of Dr. C.'s theory, there is certainly no novelty in his practice, since, with the Rasorian school, tartar emetic constitutes the sheet-anchor of success in the treatment of pulmonary inflammation. This we are ready to grant; but we must state that Rasori and Dr. C. differ materially as respects the principle upon which

they prescribe the same remedy in the same complaint. Agreeably to the present Italian school, tartar emetic is a direct sedative, a true counter stimulant, by which excitement is diminished throughout the system without the necessary supervention of evacuations; whereas, by the Mississippian writer, it is maintained that under the circumstances we have alluded to above, the same remedy acts as a stimulant of the most powerful kind, rousing excitement in the system, and diffusing it all over. It is but justice to remark, however, that Dr. C. states that it may appear *paradoxical* that tartar emetic, a remedy so powerful in subduing excitement, should be one of the most powerful medicines, in certain states of the system, in producing it. Again, in direct opposition to the Rasorian school, he remarks, "It seems to me that tartar emetic produces excitement by restoring energy to the nervous system, thereby enabling it to rise from its oppression and torpor." After this, it may well be exclaimed by the sceptic, who will decide when doctors disagree.

In another part of the essay, Dr. C. remarks, that most patients will not bear with convenience and advantage, more than five grains at a dose every two hours, and few will bear less than three grains, without its producing vomiting and other troublesome symptoms. Some, however, where the system has not been much depleted, will bear ten grains at a dose. The remedy appears to puke *less*, and develop the excitement *more*, when it is given in the form of pills, or dissolved in a very small quantity of water. "If the patient, after having taken a dose of this medicine, feels like vomiting, another dose now given will generally prevent that effect from being produced." "The states of the system to which it seems best suited, are, when the lungs are congested or inflamed, the tongue black and dry, great determination to the head, and a torpid, insensible state of the surface, particularly of the extremities, &c."

32. *Bark of the Ampelopsis in Catarrhal Consumption.—Extract of a letter addressed to one of the Editors by Dr. Dudley Atkins, of Kingston, Pa.* "Since I came to this part of the country, I have become acquainted with the medicinal properties of a plant, which I find an invaluable remedy. I refer to the Ampelopsis, (the Vitis and Hedera of some authors,) the common creeper which covers the walls of many old buildings in Philadelphia and its environs, growing also on trees, &c. When I came to Kingston, I found this plant, under the name of consumption vine, enjoying a high and universal reputation as a remedy for consumption. I have heard of more than a dozen well attested cases of its curing people who were on the borders of the grave, and who had been given up by the best practitioners in the country, as incurable. But these were not, so well as I can ascertain, cases of genuine consumption, that is, of ulceration of the lungs. I have tried the remedy in a dozen cases, of various forms of pulmonary disease. I find it of little benefit in cases where the lungs are ulcerated, as ascertained by the stethoscope, or by other modes of information. But in cases of chronic catarrh, of chronic purulent discharges from the bron-

chial membrane, even when attended by hectic, &c. I have found it invaluable. In these forms of disease, it is almost specific.

"It appears to operate upon the pharynx, larynx, and whole lining mucous membrane of the lungs, more immediately and directly than any medicine of the class of expectorants, I know of, or have used.

"The mode of preparation is, to take the trunks and branches of the vine, to scrape or peel off the rough external bark or cuticle, and then to separate from the wood, the thick internal bark or cutis, a small handful of which is to be infused in a pint of hot water, and from a pint to a quart to be drank in the day. This infusion forms a mild mucilage, which, on being tasted and drank, will be found to produce a sensation of roughness, and a tickling over the whole fauces, that irresistibly produces screatus, and secretion from the mucous and other glands.

"As the remedy is so simple, so cheap, and yet so effectual, I wish it may become known generally."

33. *Obstinate Vomiting cured with Extract of Marigold.*—Dr. **Carter**, physician to the Kent and Canterbury Hospital, in his reports from that Institution, gives an account of an obstinate vomiting, treated by the extract of calendula or marigold. The woman was twenty-four years of age, and complained of vomiting her food soon after it was taken. It was attended with burning pain at the pit of the stomach, and between the shoulders. This state had continued for two years. She was much emaciated. After a variety of remedies had been in vain prescribed, he resorted to an old remedy, the extract of marigold, in doses of three grains every three hours, all other medicines being laid aside. This produced almost immediate cessation of the vomiting. Pain was, however, still felt at the pit of the stomach, on which account leeches were occasionally applied, which, together with keeping the bowels open, effected a cure.

The vomiting did not return for three months, during which time she was under observation. Dr. **James Johnson** says that the calendula is a medicine of ancient, though of almost forgotten reputation. It seems to deserve, he thinks, a trial in chronic affections of the stomach. Dr. **Carter** administered the calendula in a case of organic disease of the uterus, with the effect of mitigating pain and lessening the discharge. The preparation was an aqueous extract of the flowers. About one pound of the flowers yielded an ounce of extract.—*Repos. ap. Med. Chir. Rev. July,* 1826.

34. *Vomiting of Fat and Blood.*—**Johnson**'s journal cites from the *Annali Universali* for January, this extraordinary case. It was that of a man aged seventy-five, who had enjoyed good health, with the exception of an attack of jaundice, until about two years since, when he began to be seized with occasional vomitings, after which the stomach became restored. One evening, after a violent attack of puking, when the paroxysm was apparently over, he was again seized with a vomiting of pure blood, and a kind of thick oil, or melted fat. In the course of twenty-four hours, the enor-

mous quantity of thirty pints of this mixture was ejected, whereby the man was reduced to a state in which life was scarcely perceptible. Before the attack, he was rather plump, but the skin now hung in folds about him, being emptied of the adipose matter. He recovered in twenty days, but with a great diminution of his adeps. The consumption of fat is very rapid in many instances, but this case is enormous. Haller cites several cases on the subject of loss of fat. One of a man who lost thirty pounds by a fever, another who lost fifty pounds by a salivation, eighty pounds by small pox, also a man who lost six pounds of oil or fat, from his umbilicus. The gentlemen who describe epidemic East Indian cholera, also give us many examples of sudden and profuse losses of substance by absorption, but this case of sudden colliquation of the fat, exceeds every thing of the kind which we have on record. If we allow in fever a moderate use of digestible food, do we not save to the system, a portion of fat which would be otherwise absorbed, and become a source of more mischief than a little weak chicken water or arrow root?—*Med. Chi. Rev. July.*

35. *Rupture of the Spleen.*—Mr. Bailly has published in the *Revue Medicale*, several cases of rupture of the spleen, which he asserts to be a very common occurrence in the intermittent and remittent fevers of the Campagna di Roma. He also found the liver very often gorged with black blood, and its structure broken down and reduced to a putrid jelly.—*Ibid.*

36. *Chilblains cured with Chloride of Lime.*—Mr. Lisfranc cured an obstinate case of chilblain, with ulcers on the back of the hands, by covering them with plasters of simple cerate; the plasters had holes made in them: over this plaster was laid pieces of lint dipped in the solution of chloride of lime. The dressings were renewed every twenty-four hours.—*Ed. Med. and Surg. Jour. July.*

37. *Local Spontaneous Combustion.*—Dr. Johnson says, "We have been always sceptical as to the alleged phenomenon of spontaneous combustion; nor does the following case diminish our scepticism." He then cites from Hecker's Annals for 1825, vol. ii. the case of a young woman, who, while working at her needle, perceived a "sudden and extraordinary heat pervade her whole body, attended by a violent burning heat in her fore finger, which became encircled with a blue flame to the extent of an inch and a half. Affusions of cold water, and a wetted napkin, had no effect in extinguishing the flame. The whole hand was then put in water, but, like the famous Greek fire, nothing could put it out." This patient, whose finger was afterwards quenched in milk, went to the General Hospital of Hamburgh, where she recovered. As the testimony concerning the conflagration rests on her own statement, our readers may judge for themselves of its probability, always remembering that undoubted cases of spontaneous combustion are on record.—*Ibid.*

38. *Dr. Painchaud on Tic Douloureux.*—Dr. Painchaud, in a letter to the editor of the Quebec Medical Journal, details his unsuccessful attempts, by bleeding, cupping, &c. to relieve a patient affected with tic douloureux.

He began finally to use the rubigo ferri, and gave a scruple three times a day, with no good effect; but when he augmented it to one drachm, thrice a day, the patient was completely cured in one week.—*The Quebec Medical Journal, No.* 3.

39. *Duration of Life among the Romans.*—At a sitting of the *Academie Royale des Sciences, Jan.* 30, Mr. Dureau de la Malle submitted some tables of the census of the Romans, to which he subjoined a very interesting table of the probable duration of life, among those lords of the earth.

Table of the probable duration of Life, calculated by Domitius Ulpianus, *prime minister to* Alexander Severus.

	Age.				Probable duration of future life.
From	0	to	20	years	30
	20		25		28
	25		30		25
	30		35		22
	35		40		20
	40		45		18
	45		50		13
	50		55		9
	55		60		7
	60		65		5

Mr. Dureau de la Malle, says that this table was calculated on the basis of the census, (*tabulæ censuales*) and the registers of births, puberty, virility, deaths, by ages, sexes and nature of diseases, which were kept in the most rigorous manner from Servius Tullius, down to Justinian, which comprises ten consecutive centuries. From these 1000 years of observation, which is a term longer than necessary to establish the exactness of the calculation, Ulpian fixes the mean duration of life among the Romans to be 30 years. And it is worthy of remark, that the mortality bills of Florence, show the same result at the present day, in that capital of Tuscany.—*Archives Générales, Mars* 1816.

40. *Difference of Mortality from* 1775 *to* 1825.—At a sitting of the Royal Academy, M. Fournier read a memoir by Mr. Benoiston de Chateauneuf, on the changes which have taken place in the laws of mortality from 1775 to 1825.

It is known, that of one hundred children, there formerly died within the two first years 50
This number is now reduced to 38.3

This difference ought to be principally attributed to the influence of vaccination.

Of one hundred children, there formerly died before the age of ten years, ... 55
At present, the number is 47.7

Out of 100 male children, formerly there arrived at 50 years of age, only		21,5
Now		32,5
It is ascertained that the rate of mortality was formerly	1	in 30
At present, it is	1	39
The births were formerly	1	25
At present,	1	31
The marriages were	1	111
At present,	1	135
Formerly the mean product of each marriage was	4	children
At present,	4	do.

It is plain, the fecundity of the people has not changed, that the births, as well as the deaths, have diminished, and that the term of human life is prolonged.

One cause of the diminished number of births, may be found in the smaller number of marriages; besides which, the number of foundlings has more than tripled since 1780. Nevertheless, the population must increase, because the duration of life is greater, which has more influence in augmenting the population, than a few births more or less, from which death removes in two years 0,48.

There is another Table, showing a comparison of the population, &c. of all France in 1780, and in 1825.

1780,			1825,	
	whole Population	24,800,000		30,400,000
	Deaths	818,490		761,230
	Births	963,200		957,970
	Marriages	213,770		224,570
	Illegitimates	20,480$\frac{11}{47}$		65,760$\frac{1}{4}$

Mortality at different ages for the whole Monarchy.

In 1780, from birth to 10 years,	out of 100,	55.5 died.	In 1825,	43.7
50		78.5		67.5
60		85		76

It is clear, therefore, that the mean duration of life in France, is prodigiously increased.—*Ibid.*

41. *New method of Percussion of the Thorax.*—Mr. Piorry read a memoir to the Academy, on this new method. It consists in striking on a small circular plate, one line in thickness, made of the pine used by the musical instrument makers, and supported by a bent handle. By this means, a stronger sound is obtained, the differences of which may be perceived even through the clothes. We may also strike harder, and with a more sonorous substance than the fingers, &c.—*Ibid.*

42. *Acid Nitrate of Mercury.*—Auguste Godart, D. M., has published his thesis, consisting of a history of this medicine, and the cases to which it is applicable as a remedy. He relates a number of cases of eruptive diseases, such as lepra vulgaris, psoriasis inveterata, old syphilitic ulcers, and herpetic affections, in which it produced happy cures. It is difficult to

give any reason why this caustic should produce such happy results, when other caustics have no such beneficial effects. Mr. GODART informs us that the pain that follows its application, though very acute, is short lived. His directions for its employment, are, to dissolve one grain of acid nitrate of mercury, in one ounce of nitric acid, and according to the thickness of the part to be cauterized, spread with a pencil, thin layers of the caustic, on the diseased parts, or cover them with lint moistened with the above mentionėd liquid. This is the process of Mr. JULES CLOQUET. One, two, three, or even more cauterizations are required, according as the disease has been of longer standing or greater severity. We think the world will be much indebted to the physician who can point out any certain method of treating some of these obstinate cutaneous affections, which in these United States at least, most generally go out of the hands of physicians, into the management of quacks and old women.—*Ibid.*

43. *Effects of Ardent Spirits.*—Mr. SEGALAS, in a memoir read at the Royal Acad. of Sciences, asserts 1. That concentrated alcohol exerts a chemical action on the blood while circulating.

2. Diluted alcohol, injected into the veins or bronchia, produces drunkenness immediately. The same effect takes place more slowly if it be introduced into other parts.

3. The effects of alcohol introduced elsewhere than into the veins, are in direct ratio to the intensity and quickness of the absorbing power of the part, and altogether independent of the nerves distributed in it, particularly of those of the stomach.

4. The effects are accelerated, augmented, or retarded and diminished, by those circumstances which favour or oppose the entrance of alcohol into the circulation.

5. Drunkenness is dissipated as soon as the alcohol leaves the blood, and more or less speedily, in proportion as circumstances are more or less favourable for exhalation.

6. The intensity of the effects of alcohol, are in a ratio, not of the quantity of alcohol put in contact with the organs, but of that which is actually in the blood.

7. Finally, profound drunkenness, and death by drunkenness, coincide with a manifest alteration of the blood, and with less remarkable disorders of the solids, says Mr. SEGALAS. Considering drunkenness as the result of a disease of the blood, an explanation is afforded, of the influence of oil and ammonia in arresting its effects: according to Mr. S., oil may prevent the absorption of alcohol and ammonia, and acetate of ammonia ought to favour its elimination. Perhaps they even exert a direct influence on the blood, the reverse of that exercised by alcohol.—*Archives, Avril.*

44. *Colombo Root.*—M. GUIBOURT gives some observations on colombo root. The true root, which is that of the *cocculus palmatus*, (Decandolle) is scarcely seen any more in commerce: it has given place to a spurious sort which comes from the Barbary States, and which looks like, but is not,

however, the gentian. The true colombo is of a greenish colour, of a very bitter taste; presents sometimes a radiated structure, and becomes blackish with iodine, on account of the starch which it contains. False colombo is of a yellow-brown colour, and a taste rather acrid than bitter, an odour like gentian. Iodine discovers no starch in it, and does not change its colour; it becomes blackish-green with sulphate of iron. Its aqueous infusion reddens tournesol; ammonia is disengaged from it by caustic potassa, all, circumstances which do not obtain with genuine colombo.—*Archives Gén. Avril.*

45. *Poison of Mushrooms.*—Dr. Letellier has published some Researches on the alimentary, medical, and poisonous properties of the mushrooms which grow in the neighbourhood of Paris. Dr. L. says, that from numerous experiments made by himself on the deleterious substance which exists in mushrooms, it results, that this poison is not weakened by dessiccation nor by ebullition; it is not decomposed or precipitated by acids, by weak alkalies, acetate of lead, or infusion of nut galls. It is soluble in water, and in all liquids which contain water; insoluble in æther, notwithstanding what has been said by authors concerning this point; it does not seem to be susceptible of crystallization, and consequently, cannot be separated from colouring matters, and salts with a base of potassa or soda. It neither manifests itself by odour or savour; resists a temperature much higher than that of boiling water, and forms with acids, crystallizable salts.

This substance exists only in the *agaricus bulbosus*, *muscarius*, and probably *vernus*, and may receive the name of *amanitine*, derived from that of the section of agarics in which it is found. M. Letellier states, that the symptoms produced by this deleterious principle, are nearly related to those from opium, and what establishes a closer analogy, is, the drunkenn[illegible]with coma or furious delirium, which the Russians, according to Pallas, produce with the agaricus muscarius.—*Archives Gen. Mai* 1826.

46. *Antisyphilitic Decoction of Zittmann.*—This preparation was employed towards the middle of the last century, and remained a secret preparation till 1795. Dr. Chelius (vid Heidelberger Klin. Annal.) having witnessed its efficacy in the most inveterate cases of syphilis, has used it for ten years past, not only in such affections, but also in scrofulous and similar diseases.

According to his experience, it cures—1. all recent venereal affections—2. all those which have resisted the various preparations of mercury—3. the diseases occasioned by mercury. The cure is effected in from ten to twenty days. The treatment, far from having any unfavourable influence on the general health of the patient, gives it freshness and vigour. Even those who are eminently rachitic, bear it without inconvenience. The decoction of Zittmann, from its moderate price, is in reach of any patient. M. Chelius gives some cases showing its effects.

Zittmann's decoction is prepared in the following manner:

1. Strong decoction.

R. Rad. Sarsapar. - - - - ℥xij
Coq. c. aq. font. lb. xxiv per ¼ hor. adde
Celum Sacchar. - - - - ℥iss
Merc. dulc. - - - - - ℥ss
Cinnabar. Antimon. - - - ʒj
In nod. ligat. Sub fin: coct. admisce,
Fol. Sennæ. - - - - - ℥iij
Rad. liquis. - - - - ℥iss
Sem. Anisi Vulg. } - - - - a à ℥ss
— Fœniculi. }
Col. lib. xvj. D. ad lagen. viij.

2. Weak decoction.
R. Resid. decoct. fort.
Rad. Sarsapar. - - - - ℥vj
Coq. cum. aq. font. lib. xiv. Sub. fin. coct. adde
Pulv. Cort. Citr. }
— Cinnamon. } - - - aàʒiij
— Cardamom. }
Rad. Liquir. - - - - ʒvj
Colat. xvj. D. ad lagen viij.

The patient may commence by taking from nine to twelve pills, composed as follows:

R. Calomel. - - - - - - - gr. xxiv
Rad. Jalap. - - - - - - ʒiss. ft. pilul 80

During the four following days, he will take every morning, a bottle of the strong decoction, a little warm, and after dinner the same quantity of the weak decoction, not warmed.

On the sixth day the pills are repeated, and the four following days the decoctions are repeated as at first. During this process the patient's diet must be confined to two ounces of roasted lamb or veal, with an equal quantity of wheaten bread, and only *three potages* on the days of purging. It is of importance to keep in bed during this treatment, after which the patient should remain quietly in his room a few days, drinking a little sudorific ptisan, and observing a severe regimen.

If after all this, the disease should not lose every vestige of the syphilitic character, recourse must be had to a second treatment of the same kind; but in a majority of cases, ten or eleven days are sufficient to put an end to all the symptoms, or at least to bring them to a condition in which they require no particular therapeutical aid.—*Archives Gen. Mai.*

47. *Acetate of Ammonia a Remedy for Drunkenness.*—At a sitting of the Royal Academy of Sciences, M. MAZUYER sent a memoir on the effects of acetate of ammonia in drunkenness, which, according to him, will dissipate it in less than five minutes. This property belongs, as has been long known, to ammonia.—*Ibid.*

48. *Mortality of Leeches.*—A sad accident has happened lately at Stras-

bourg. A whole army of leeches, equalling in number the people, and tongues, and nations which followed Xerxes to drink the blood of the Greeks, has lately perished while passing through the capital of Alsace to revel in the spoils of the gastrites, gastro-enterites, laryngo-tracheite-myxa-pyo-meningènes, and other such branches of learning, which flourish so much in the good city of Paris. *One million* of these animals on their way from Hungary to Paris, were thrown into the river, having putrified in consequence of the excessively hot weather, whereby a total loss was sustained, equal to 320 or £400.—*Philad. Gazette.*

49. *Black Drop.*—Dr. JOHNSON says, that "Public attention was drawn to the Black or Lancaster Drop, about ten years ago, by Dr. ARMSTRONG, who published the formula, in the first edition of his valuable work on typhus fever. It is certain, however, that full twenty-one years ago, two formulæ were given to the public by Dr. JAMES CASSELS, of Lancaster, one corresponding with that of Dr. ARMSTRONG, and the other as follows: "take of purified opium, five ounces—pimento and cinnamon, of each two drachms—saffron and Seville-orange-peel, of each one drachm—rectified spirit of wine a pint. Digest with a gentle heat for a week, and strain the liquor through flannel with a screw press; then add two or three ounces of sugar-candy."

A friend of ours made the Black Drop according to the other prescription, (with the Verjuice,) but it did not correspond in colour, taste, or property, with that which is sold as a secret preparation. We would therefore recommend a trial of the last mentioned formula, as a succedaneum for a very expensive, but very valuable medicine."—*Med. Chir. Rev. July* 1826.

50. *Doses of Calomel in days of yore.*—In the seventh volume of HALLER's Dissertations, the curious reader will find an important paper on the use of calomel in various diseases, by MICHAELIS ALBERTI, in which he gives a learned history of this potent medicine, from the Arabian Physicians down to PARACELSUS, and thence to his own time, 1745. In this dissertation, it will be seen that HELWICHIUS gave calomel in doses of five scruples to two patients. To a third he gave seventy-two grains, which affected the mouth for a fortnight. NEUTERUS gave calomel, at first in the dose of fifteen grains, second dose a scruple, third dose half a drachm, fourth dose a drachm; at which dose he continued till the ptyalism was raised. We do not cite this notice from JOHNSON, by way of encouragement, for the trivial name, of *Calomel and Jalap Doctors* is sufficiently in use already. Dr. JOHNSON remarks on this article, that there is nothing new under the sun. How can there be any thing new under the *head* of calomel, when we have travelled all the way from HELWICHIUS' 100 grains, down to AYRE's 8ths for doses? —*Ibid.*

51. *Buying a Good Practice.*—We believe that no good offers have been made in this country as yet, for the purchase of a *practice*. It is true we hear of patrons and protegees sometimes, but these are pure voluntarities.

The following advertisement sounds rather singular therefore in American ears. It is from Johnson's Journal for July.

"A general practitioner of considerable experience, in order to obtain a more extensive connexion than his present situation affords, wishes to purchase a share, where there might be a probability of his succeeding to the whole of an established business. Any gentleman having it in contemplation to retire in a few years, would find this an eligible opportunity for realizing the value of his practice. Apply (if by letter *post-paid*) to Mr.," &c. &c.

We do not desire to meddle with our grandfathers on the other side of the Atlantic, but we do not think it quite fair in a guinea doctor, whose chariot wheels are worn out, and whose purse is worn through with carrying home guineas, to sell out his catarrhs and convulsions, his hepatitises and hypochondriases, to the highest bidder. If some of our established physicians, whose just reputation enables them to monopolize all the valuable practice now, should choose to retire and *realize*, what would become of forty or fifty young aspirants for employment, whose progress, like the soldier's foot in the lock-step, must depend on the displacement of his antecedent? Heaven forefend such realizing!

52. *Sore Nipples.*—Dr. Sibergundi, of Dorsten, recommends the followlowing preparation as a cure for sore nipples, and if it is of any efficacy, the ladies who suckle their children may thank him for the information:—*Extracti opii aquosi* qr. j. *Solve in aqua calcariæ ustæ, nuperrime preparatæ; olei amygdalarum dulcium, recenter et frigide express.* āā ℥iij. The nipples are to be dressed with lint wetted with this mixture.—*Bulletin, Juin* 1826.

53. *Anderson's Quarterly.*—It seems rather singular that French news and English news should travel across the Atlantic to be dressed up for the London market, and yet such is the fact. We regard it as a proof that our labours in the Quarterly summary department of this journal, are acceptable to the public, for we find a large amount of them transferred, some of them without acknowledgment, to Anderson's Journal for July.

54. *Antiquity of the Cow-pox, and origin of the Small-pox from it.* (*Hufeland's Journal, Feb.* 1826.)—The Pope's physician, Dr. Prela, has with great probability proved, particularly by passages from Pliny and Celsus, that vaccination was known in ancient times under the name of *Boa*, by which its origin from the Cow is designated; and on this he has founded the ingenious hypothesis, that the small-pox gradually developed itself by the action of the cow-pox on the constitution, so that the present removal and prevention of the complaint by vaccination, is only to be considered as a return to the old state. These opinions are detailed at length in a separate publication from Prela, under the title of *Il Boa di Plino, congettura sulla storia della Vaccinazione. Milano*, 1825.—*Ed. Med. and Surg. Jour. July* 1826.

V. SURGERY.

55. "*Lithotritie,*" *or the breaking up of the Stone in the Bladder. Civiale's operation for urinary calculus.*—Before the establishment of our journal, the profession in this country were informed of the proposal of M. CIVIALE to break up, by means of suitable instruments, the urinary calculus in the bladder, so that, the fragments being discharged, the patient might escape all the horrors of his situation, and all the dangers to which the common operation of lithotomy, even in the best hands, would inevitably expose him. The operation of M. CIVIALE has been very generally opposed, at home and abroad; with many friends, it has met with more enemies; it, nevertheless, appears to be gaining ground on its enemies, and M. CIVIALE has been forced to encounter, not only the objections to his operation, but the opposition of friends to the improvement, who deny him all credit for originality, in the conception of the idea, or of the means by which it has been executed. "Such," says CIVIALE, "is the common course of events; as soon as a discovery is announced, it is at once rejected, even without examination; when experience has tested its utility, the rights of the author are contested."

We propose to give a short history of the operation, as presented by M. CIVIALE himself, in the March (1826) number of the Archives Générales, and of its present reputation in Paris, as reported in the numbers of the same journal for April and May. This will be useful as a matter of record, if not of great practical importance.

In 1817, M. CIVIALE conceived the idea of introducing *straight instruments* into the bladder, to seize and perforate the stone, and afterwards to destroy it by chemical agents.

In 1818, he addressed a memoir to the Minister of the Interior, accompanied with drawings of his instruments. The whole was referred to the Faculty of Medicine, which appointed MM. CHAUSSIER and PERCY, a committee to report thereon. Their report was not, however, presented until March 22nd, 1824. During the interim, many experiments were made on the dead human subject, and on living animals, by M. CIVIALE, who modified his instruments, and in 1821 brought them nearly to their present state of perfection.*

In 1823, his first attempts on the living subject were made; he operated on two patients with small calculi, with complete success. Early in 1824, he again operated successfully on three patients, where the difficulties were much greater. These operations were performed in the presence of many surgeons, and also of the above-named committee, who soon after made their report to the Faculty of Medicine, in which they state "that notwithstanding its insufficiency in certain cases, and its inapplicability in others, it cannot fail to create an epoch in the art of healing, and be regarded as one of its most ingenious and salutary resources."

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* They are described at p. 396, vol. x. of the Archives Gen. March number.

Lithotritie was thus demonstrated to be practicable. "It remained," says M. Civiale, "to fix the *limits* for its employment;" which experience could alone determine. Hence, M. Civiale adduces facts and cases to show, 1st, *what are the most favourable cases.* "A small stone, a healthy or almost healthy condition of the prostate, of the bladder, and of the vital organs, with a natural condition of their functions, are the most favourable circumstances."* M. Civiale has detailed under this head, nineteen cases in which he was completely successful: many of them were performed in the presence of distinguished surgeons, &c. The conclusion he draws is, "that, with the exception of very young children, and a few other cases, all those who submit to the operation as soon as the disease is manifest, are exposed to no danger, usually suffer but little pain, and are preserved from those terrible sufferings and diseases, which the continued presence of a stone in the bladder produces." 2nd. *What are the circumstances which diminish the chances of success?* "A large stone; alterations more or less great in the bladder; considerable *engorgement* of the prostate, a diseased state of the kidneys, or of other organs, are unfavourable complications." Such cases, often demand a preparatory treatment of eight or ten days. M. Civiale records eleven examples under this head, in which he eventually succeeded in completely relieving the individuals, from the symptoms and the presence of calculus in the bladder. Three of them afterwards died of other complaints. "The diseases of which they died, after being operated on, and cured for some time, were independent of the stone and of the operation. The autopsy of these subjects, has proved how little foundation there is for the fears of some, relative to fragments of the stone remaining in the bladder." 3d. *What are the circumstances which absolutely forbid this operation, or render success improbable?*

Nine cases are detailed in answer to this question, in three of which the attempt was unsuccessful, and lithotomy was performed. One of them died from this last operation. In two others, a mere examination was made by M. Civiale, and lithotomy was afterwards performed with a fatal result.

In a sixth case, several stones were extracted; the individual became impatient, was cut in the usual manner, and recovered. In a seventh, lithotritie was, with some difficulty, successful. In the eighth, no attempt was made by M. Civiale, who found the patient with an abscess and stone in the perineum, of which he died; and in the ninth case, Civiale himself resorted at once to lithotomy, the case being a very unfavourable one: the patient died.

In all of these cases, there was much disease, either of the urethra, bladder, prostate, or of the internal viscera. In some, the stones were numerous, and in one or two, the calculus was of enormous size. M. Civiale states, that he has met with many other individuals who were beyond relief by any measure whatever. He adds, "I have thus endeavoured to shun the rock on which others have been shipwrecked, who have made improvements. I have not generalized too much." "A review of the *facts* will show how futile are the objections to my operation. It is said, that the operations are multiplied and fatiguing; the contrary, has just been demonstrated: The time occupied in the treatment is proportioned to the duration of the complaint. It is also asserted, that there is never any certainty that the cure is perfect; but the facts refute this objection. Experience has also shown, that no objection can be founded on the *solid* nature of the instruments. The inconveniences of dilating the urethra have been urged, but the size of my instruments proves, that there is no dilatation of a healthy urethra. The bad consequences of my operation have been urged by others, but no such accidents occur to any who have sufficient experience in performing lithotritie. It is also urged, that the unsuccessful attempts to break the stone, have aggravated the danger of lithotomy, when subsequently formed: on this point, I will cite but one fact; of four individuals, on whom I made unsuccessful trials, and who were subsequently cut, three were cured."

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* P. 399. t. x. Archives Gen. where the mode of operating, as well as the preparatory measures, are detailed.

As to the relative value of the two operations, facts must determine. M. Civiale states, that of 60 individuals cut by the celebrated Frere Jacques in the hospitals of the Hotel Dieu and La Charité, 13 were cured, 25 died, and the remainder lived, with more or less permanent injury. Morand states, that of 812 patients, cut at the above hospitals, from 1720—27, 255 perished; of the 557 who survived, the cure was incomplete in a large number.

In a late work of a distinguished Professor, it is asserted that one in four or five die, and M. Richerand, in his recent history of surgery, affirms, that success cannot be expected in more than *half* of the cases of lithotomy.

We have not materials at hand, to enlarge this account of M. Civiale, but believe that in England and this country, lithotomy is more successful; nevertheless, *if* lithotritie will answer in the cases specified by M. Civiale, its introduction should be hailed as "an epoch in the history" of this operation. One of the favourable cases above alluded to, occurred in the person of a physician; Dr. Brousseard, who read an account of it to the Academy of Medicine, the 27th of Oct. 1825, which was published in the Archives for April last, at which time he continued perfectly well; the operation having been performed in the summer of 1825, at six sittings.

In a Report to the Academy of Surgery on this case, by MM. Roux, Jules Cloquet, and Hervey de Chegoin, we find decided testimony in favour of lithotritie to a certain extent, but the reporters confine themselves to what they have actually witnessed.

"It has been indubitably proved to the Academy, that it is possible to break up a calculus of small size in the bladder, and to extract the fragments by the urethra, without any incision, and by means of straight instruments; that this operation, although it must be repeated a certain number of times, not without pain, is far from presenting the great dangers and disadvantages of lithotomy, and that thanks are due to the patient, and encouragement to the operator." Testimony is borne to the mode and dexterity of M. Civiale's operations, and they add, "that without investigating the question in a general point of view, we may conclude, from what we have seen, that stones of a small size, and friable, are *easily* broken in this organ, and withdrawn by the urethra. Other facts already published, *will give more extent to these conclusions*, but we repeat, that we confine ourselves to the facts which we have witnessed."

56. "*The High Operation*" is attracting attention in France and England, and is performed when the bladder is emptied of its urinary contents, and of course, contracted on the calculus, so as to avoid any danger of urinary infiltration. It has been proposed to empty the bladder in these cases, by introducing a canula into this viscus through *a small opening in the perineum and urethra.*

This project has been condemned by many, and at the sitting of the French Academy, March 30, Mr. Emery stated that besides M. Civiale, this incision had been condemned by Home, Scarpa, and other surgeons, as useless. It does not appear that much success has as yet attended the revival of the High Operation.—Vide page 462 of our first Vol. for a successful case.

57. *Sutures in Wounds of the Bladder.*—MM. Lisfranc, Maingaut and Amussat, reported to the section of Surgery in April last, on a memoir of M. Pinel Grandchamp, relating to Wounds of the Bladder. After noticing his experiments on various animals, and examining the state of the bladder after these animals had been killed, they conclude, "that the suture should always be eventually removed by the external wound, as otherwise it would become the nucleus for a calculus.—Secondly, if the wound of the bladder should not be cicatrized, when the suture is withdrawn, this viscus contracts adhesions with the parietes of the abdomen, which would prevent effusion; that in the human subject the lips of the wound in the abdomen could be kept separated, so that the ligature could be removed sooner; and finally, that these experiments of M. Pinel would authorize the belief, that this practice would be extended to the human subject, and that the "high operation" for the stone, might thus be superior to that by the perineum.—M. Jabert has made similar experiments on the bladder.—*Archives Gen, Mai* 1826.

58. *Paracentesis Thoracis.*—A case of Empyema, in which this operation was successfully performed, is recorded by Thomas Jowett, Esq. of Nottingham, England.

The details as given in the Med. Chirurg. Rev. for July, are highly interesting and valuable; especially as exhibiting the great advantages derived from the stethoscope, and from percussion, in the diagnosis and treatment of pulmonary affections. The operation was performed on Wednesday, March 31, 1824, in the tenth intercostal space, of the right side, and about three inches distant from the spine, where the bulging of the integuments was greatest. A stream of pus "spouted out to the distance of several feet," and was interrupted by a fit of coughing, after three pints of the fluid were discharged; a quantity of air was sucked into the cavity of the thorax. The pus was good, and did not undergo any change by standing two days exposed to the air. The wound did not again discharge, and by the fifth of April was nearly cicatrized. No bad symptoms resulted—the patient continuing to improve until the 14th of April, when she had cough, purulent expectoration, some fever, night sweats, &c. On the 24th, a tumour appeared where the operation was performed, which burst on the 26th, discharging ℥ij of a greenish-yellow pus—some oozing continued for several days. May 10th. The right side of the thorax is evidently much contracted in all its dimensions, with a lateral curvature of the spine. This diminution was, however, temporary, for the spinal column became nearly straight, and the right side re-enlarged to very nearly its proper dimensions, by the 5th of July.

On the 4th of February, 1825, the patient continued well, with the exception of a slight cough, and generally slept on the right side. We regret the want of room for more details, and for the remarks of Mr. Jowett.

59. *Stricture of the Œsophagus.*—A man died of exhaustion from a stricture of the œsophagus, when beyond seventy-six years of age, and who had, from childhood, experienced a difficulty in swallowing solid food. A post mortem examination exhibited a considerable dilatation, or pouch, at the lower portion of the œsophagus, below which was a stricture so narrow, as scarcely to admit a probe. "There was *no change of structure* in the parietes of the œsophagus constituting the stricture, which appeared to be a simple contraction, not dependant on any organic alteration of the parts." The case occurred at Paris.—*Med. and Chirurg. Rev. for July.*

60. *Wound of the Brain.*—Dr. Jos. Marrin relates in the Quebec Medical Journal for July, the following case of injured brain, &c.

—— Gingras, aged twenty-one years, when discharging his gun, was wounded in the forehead, by the breech-pin, which, in consequence of the bursting of the gun, was driven through the inferior portion of the frontal bone, immediately above the nasal process; the injury extending on the left side, so as to cause a fracture of the internal angular process as far as the superciliary notch, as well as the anterior portion of the orbitar plate. The young man was knocked down by the blow, but soon recovered so as to walk some distance, until he *fainted* from the loss of blood.

Dr. M. several hours after the accident, found the integuments much lacerated, and the breech-pin so deeply plunged into the substance of the brain, as not to be seen until the integuments were separated, when it was discovered, immoveably wedged in the bone, while part of the substance of the brain appeared on each side of the wound. The patient was sensible. From want of instruments, (the accident occurring out of the city,) some delay ensued before the pin could be extracted, which was eventually accomplished by means of a dentist's forceps employed with considerable force.

No hæmorrhage followed; the patient having been previously bled, was directed an aperient medicine, a most abstemious diet, and cold applications to the head, while the edges of the wound were brought together with an adhesive plaster.

On the sixth day, his pulse beginning to rise, he was bled a second time. On the fifth day, a piece of brass of the size of an English sixpence, dropped from the left nostril, and was recognized as having been attached to the breech-pin.

A sanious fœtid discharge continued to issue from the orifice in the cranium, which, however, ceased on the extraction of some spiculæ of bone, which had been driven to the depth of three inches and a half, by the breech-pin. The wound, which was four and a half inches deep, granulated, and the whole cicatrized readily, the patient remaining free from pain, fever, &c. and in possession of all his mental faculties. "The sense of smell, is totally lost from the separation of the olfactory nerves at their entrance in the cribriform plate; the organ of taste is consequently much impaired." The sight in the right eye, is perfect—in the left, it is destroyed. The patient returned home in twenty-seven days after the accident.

61. *Luxation of the Metatarsus; the history drawn up by M. Dusol, D. M. P.*—Examining the figure and connexion of the bones composing the articulation belonging to the tarsus and metatarsus, we might deem the luxation impossible. BOYER absolutely denies the possibility; PETIT and DESAULT do not notice it; and DUPUYTREN considers the following case as unique in the records of the profession.

FRANCES VOICHOT, aged thirty years, acting as a porter in the town hall, of good constitution, was taken into one of M. DUPUYTREN's wards in the Hotel Dieu, on the sixth of November, 1822. The woman stated, that in coming down St. Michael's bridge with a load of two hundred pounds, she pitched with all her weight on her right foot, and at the instant she attempted to save herself, she felt a severe pain in the foot, accompanied by a loud crack, which she heard very distinctly, and that she was unable to rise. On examining the injured foot, instead of the hollow observable in the other foot, which was small and well formed, it was perfectly flat, even more so than in what is termed a flat foot. At first, M. DUPUYTREN thought that there was fracture of the metatarsal bones; but examining it more attentively, and perceiving neither crepitus nor any unusual mobility in the extent of these bones, he became convinced that there was luxation.

One circumstance might have occasioned a momentary doubt; the metatarsal bone supporting the great toe, which is naturally the shortest, appeared longer than the rest; but on a more critical examination, M. DUPUYTREN soon perceived that this bone, having preserved its connexion with the first cuneiform bone, they were both dislocated together; and it became evident that this metatarsal bone, with its cuneiform bone, and the other four metatarsal bones, were luxated from the corresponding bones of the tarsus.

The short lapse of time, and the absence of all swelling, permitted this morbid condition to be distinctly ascertained.

The following circumstances are likewise noticed: 1. The foot was shorter by three or four lines, occasioned by the riding of the bones. 2. On the instep, there was a transverse projection about half an inch in height, formed by the posterior extremity of the metatarsal bones, and the first cuneiform bone, but more remarkable on the inside than the outside, so that, had there not been a perfect conviction that the dislocation was complete, the opinion might have been entertained, that the articulating surfaces were less separated towards the outside; this projection corresponded to the line indicated for the partial amputation of the foot, excepting so far as the cuneiform bone was concerned. 3. Behind this, there was a depression large enough to receive the breadth of the finger. 4. The hollow of the foot was completely destroyed, owing to the sinking of the tarsal bones. 5. And lastly, the extensor tendons were seen well defined under the skin, and raised up the toes. If to these be added, the pain experienced by the patient, the loss of power in the limb, and the almost entire immobility in the luxated part, we are presented with the whole of the diagnostic symptoms: moreover, the integuments were not injured.

The immediate reduction naturally presented as the prominent indication, and considering the extent to which the ligaments were lacerated, little difficulty was to be apprehended in accomplishing it; but as M. Dupuytren saw no danger to the patient, there not being the slightest tumefaction, he wished to defer the operation till the next day, that he might have the opportunity of submitting so extraordinary a case to the examination of some medical men, particularly those of the Academy; the treatment was confined to resolvent applications and cooling drinks. A very trifling swelling succeeded; and, twenty-four hours after her admission, she was taken into the operating room to have the reduction effected. The patient was placed on a bed; and on the lower part of the leg, with the knee bent and held firm by an assistant, a towel, folded like a cravat, was fixed, the ends passing backwards, to serve as the counter extending band. For the extension, a splint was fastened on the fore part of the foot by means of a long roller, and the operator directed the movements, and with both hands pressing in opposite directions on the luxated bones, he soon restored them to their natural position. At the instant the reduction was effected, there was heard, even at a distance, a sound which the patient recognised as similar to that produced at the time of the accident. From this period the deformity vanished, the pain nearly ceased, and abating the slight tumefaction, the injured foot was not to be distinguished from the other. After the reduction, M. Dupuytren pointed out the unusual mobility of the tarsus, evidently owing to the rupture of the ligaments connecting the several bones.

On the foot and the lower part of the leg, compresses, moistened with a resolvent fluid, and a somewhat tight bandage, were applied. The limb was placed in a semiflex position on a pillow, and cooling drinks were administered. By this treatment, rigidly observed for one month, the pain and swelling gradually subsided, and the articulation appearing sufficiently strong, the patient was permitted to get up. She soon began to walk, and on the seventeenth of December she left the hospital perfectly well. She only suffered for a short time, from a little stiffness in walking. The compressing bandage was continued to the close of the treatment.

In this history, it is very remarkable that an accident, which might have terminated unfavourably, should have been followed only by a slight tumefaction that soon disappeared, while apprehensions were entertained of the most alarming nervous symptoms, tetanus, &c. so often observed in severe injuries of the foot. May we not presume that this was owing to the articulating surfaces not being exposed.—*Archives Générales de Medecine.*

VI. MIDWIFERY.

62. *Uterine Hæmorrhage.*—This is always dangerous, and not unfrequently fatal, when occurring during pregnancy or parturition; and although the judicious administration of ergot, sugar of lead, &c. with suitable manual assistance, has lessened these dangers, yet we hail with pleasure another, and an ingenious curative measure, useful not only for arresting hæmorrhage from the uterus in certain cases, but also to facilitate the expulsion of the placenta, when too long detained.

Dr. Benoit Mojon, of Genoa, has proposed to inject into the placenta, by means of the umbilical vein, a quantity of cold water, slightly acidulated with vinegar, after having expressed the blood as much as possible. As soon as the injection has penetrated the small venous radicles, the hæmorrhage ceases, and the placenta will be thrown off. Occasionally, it may be necessary to repeat the injection, the first having previously been pressed out.

This practice promises to be most advantageous in cases of abortion, where the hæmorrhage continues, and the placenta remains adherent, and yet the hand cannot be introduced.

In cases similar to these, M. Bonnie has succeeded by throwing acidulated injections into the cavity of the uterus.—*Jour. Univ. for June,* 1826. *Rev. Med. for June,* 1826.

63. *Polypi of the Uterus.*—In the May number of the Archives Générales, M. Berard records a case of uterine polypus, from which the following conclusions are drawn. 1st. A polypus attached to the fundus of the uterus, and extending into the vagina, may contract adhesions to this passage, and thus form a second attachment. 2nd. If the polypus increase, it is the liberated portion which augments, and descends towards the vulva. 3d. The polypus is then suspended by two pedicles, one entering through the cervix to the fundus uteri; the second, shorter and thicker, is inserted into a part

of the vagina. 4th. If the polypus descends quickly, the first root produces an inversion or a descent of the uterus; the second causes the inversion of the vagina. 5th. If the inferior pedicle be inserted at the middle or inferior part of the posterior wall of the vagina, the recto-vesical partition will be inverted; if it be inserted above the middle of the same wall, that portion of the vagina, which is internally covered by the peritoneum, will be drawn down by the polypus. 6th. In this last case, there will be on the peritoneal side, a depression, proportioned to the degree of inversion, into which the intestines may descend. 7th. It may happen, that the inverted portion of the vagina may so resemble the polypus, that the two cannot be distinguished, and the disease be misunderstood. 8th. If a ligature be applied to this inferior pedicle, it may embrace the vagina and the *intestines*, which have entered the depression; if it should be divided by the knife, a large communication would be made between the vagina and the cavity of the peritoneum.

We have no room for the cure, which will reward a careful perusal.

64. *Cæsarian Section.*—Dr. Vonderfuhr, of Dahlen, was called to a female, aged 31 years, in her first child bed, on the 28th of April, 1823, whom he found feeble, emaciated, and rachitic. Pelvis much deformed; the membranes ruptured; the head impacted; the labour pains severe, and at short intervals; child alive. The Cæsarian operation was assented to, and performed with the assistance of Dr. Kopstadt and M. Buckling. An incision was made through the linea-alba, from near the umbilicus, to within an inch of the pubes. The uterus was then opened to the extent of five or six inches, and the fœtus extracted with some difficulty. No hæmorrhage ensued. The placenta was next extracted, and the uterus contracted immediately. The wound in the abdominal parietes was closed by sutures and adhesive plasters. On the 5th day, the patient was remarkably well; free from fever; lochia discharging per vaginam, and milk in the breasts. On the 8th day, the wound was nearly united. She perfectly recovered, without a bad symptom, and brought up her infant safely.—*Johnson's Rev. for July* 1826.

65. *Case of Difficult Parturition.*—Mr. Jackson, in the London Medical Repository, for March 1826, relates a case of labour, in a female with her second child, which was rendered tedious and difficult, by a soft tumour situated *behind* the rectum, which Mr. J. was unwilling to puncture through the posterior parietes of the rectum. The delivery was eventually effected by the feet. On the 2nd day after delivery, there was a complete obstruction to the fæces, and the urine was voided with difficulty. The tumour was now punctured with a lancet from the rectum, and about six pints of a limpid straw-coloured fluid were discharged, followed by an agonizing pain in the head, which was relieved by the recumbent posture. The operation was several times repeated; was succeeded by severe pain on pressure about the dorsal vertebræ, by symptomatic fever, &c.; the fluid discharged was sometimes of a deep brown colour, tinged with blood. The

patient eventually recovered. Mr. **Jackson** supposes, that this must have been an ovarian dropsy.

66. *Case of the Pelvis becoming Enlarged.*—The Medical College at Coblentz, have given the following case, observed by Dr. **Hofmuster**. A Jewess, aged 34 years, of small stature, and deformed, having twice suffered from difficult labours, (on the last occasion it was necessary to open the child's head,) became pregnant in Dec. 1822. She aborted in the following month, and was confined to her bed until the month of March 1823. At this period, she had severe pain in the pelvis, and particularly about the sacrum. She had scarcely recovered her health, when she became again pregnant. All went on well; but entertaining fears respecting her delivery, she informed Dr. **Hofmuster** that the Cæsarian section would be required. He was called to her when in labour. The pains began six hours before, and continued to increase in frequency and force. Dr. **Hofmuster** found the head lodged in the pelvis; he waited an hour, and accomplished by slight efforts with the forceps, the delivery of a well formed living girl. The examination of the pelvis, proved that its dimensions were greatly changed, since her preceding confinement two years ago. The superior right sacro-pubic diameter, which formerly measured two inches and a half, now measured more than three inches and a quarter, and the sacro-vertebral junction no longer formed a projecting angle.—*Bordeaux Med. Jour. May* 1826.

VII. CHEMISTRY AND PHARMACY.

67. *L'Artigue's process for preparing the Watery Extract of Opium.*—Take good crude opium, break it down in a marble mortar, so as to form a paste, to be moistened with rain or river water, for the purpose of dissolving all the soluble parts; then pour the mass on a piece of linen previously stretched and moistened, so as to obtain the clear liquor. The magma, after being pressed by the hand in separate portions, is to be put into the mortar and again moistened, but with a smaller quantity of water, and the clear liquor strained off as before. The process to be repeated until the water passes off nearly colourless. Eight parts of water, are to be employed for one of opium.

The filtered liquor, after being allowed to settle, is to be carefully decanted into a basin, and subjected to a boiling heat, the ebullition to be continued for a whole day, adding fresh water every half hour, so as to prevent the concentration of the liquor. At night, pour it into an earthen jar; the next morning, decant the liquor into the basin, and continue the ebullition, renewing the water as it evaporates. In general, two days suffice in operating on four pounds of opium, to dissipate the poisonous smell, and separate, in a great measure, the resinous and feculent matter. Then having again decanted the liquor into the basin, the boiling is to be continued for two hours, when the evaporation is to be conducted at a temperature below boiling, continually stirring with a spatula, until it acquires the consistence of a thick sirup, then set it by to cool; dissolve this in cold distilled water; the quantity to be determined, by a portion of the solution not being rendered turbid by the addition of more water. A copious precipitation will take place; it must therefore, be allowed to stand for 24 hours at least; then decant and evaporate, stirring all the time, until it acquires the consistence of soft extract, and allow it to cool. The solution and evaporation to be repeated, until the extract forms a clear solution with distilled water.—*Bordeaux Med. Jour. April* 1826.

68. *Berzelius' Method of detecting Arsenic in the Bodies of Persons poisoned by it.*—Berzelius considers *the reduction of the arsenic to the metallic state, as the only incontestible proof of the presence of the poison;* confirming, therefore, the position assumed by the best medico-legal writers on this point. The same ground was assumed and ably illustrated, by Professor Macneven of New York, in relation to a medico-legal investigation, which took place some years ago.

The arsenic may be found in the body, either in substance as arsenious acid, or in solution. When in substance, proceed thus: take a piece of barometer tube, about three inches long, and having drawn it out at one end into a much narrower tube, close it. Put a small quantity of the suspected substance into the tube, and let it fall into its narrow part. Next let fall upon it, a little charcoal, which has been previously freed from all moisture, by being heated to redness by means of the blowpipe. The charcoal is next heated to bright redness by means of a spirit lamp, and when in this state, the flame is transferred to the part of the tube containing the arsenic. This is instantly volatilized, and, coming in contact with the red-hot charcoal, is reduced, and condenses in the cool part of the tube. By the application of the flame, the reduced metal may be concentrated in the small part of the tube, where it presents the appearance of a small shining metallic ring, resembling polished steel. To put its nature beyond a doubt, break off the small tube, just beyond the metallic matter, by means of a file, and having heated it, apply the nose a small distance above it. If the matter be arsenic, a garlic odour will be perceived.

In cases where the solid arsenious acid cannot be found, collect the contents of the stomach and intestines, and digest them in a solution of hydrate of potassa; then add muriatic acid in excess. Filter the whole, and if the solution be too dilute, concentrate by evaporation. A current of sulphuretted hydrogen is now to be passed through it, which precipitates the metal in the form of a yellow sulphuret. If the quantity of arsenic be very small, the liquid will become yellow, without any precipitate; in which case, it must be evaporated, and in proportion as the muriatic acid becomes more concentrated, the sulphuret of arsenic will be deposited. The liquid is next to be filtered, and if the precipitate be too small to be detached from the paper, add a few drops of aqueous ammonia, which will dissolve it. Put the liquid which passes the filter, into a watch glass, and evaporate to dryness. The ammonia will be volatilized, and the sulphuret of arsenic obtained in a separate state. If it shall still be difficult to collect the sulphuret, mix with it in the watch glass, a little pulverized nitrate of potassa, by which it will be detached from the glass. At the bottom of a small piece of glass tube, closed at one end, melt a little nitrate of potassa, and put into it, in its melted state, a little of the mixture containing the arsenic. The metal becomes oxidized and converted into arsenic acid, without loss. The melted matter is now dissolved in water, and the solution precipitated by lime added in excess, and then boiled. The arseniate of lime formed, is next to be collected. When dried, mix it with charcoal, and bring it to a red heat by means of the blowpipe. Introduce a small quantity of this mixture into the small end of the tube, mentioned at the beginning of this notice, and gradually heat it to expel all humidity; and, when it is very dry, heat it by means of the blowpipe flame. The arsenic will be revived, and sublimed at a distance from the heated part.

"M. Berzelius maintains, that the *sixth part of a grain of sulphuret of arsenic, is sufficient to make three different trials;* but he adds, that when we have discovered only very small traces of arsenic, we must take care not to introduce any by means of re-agents, among which, both the sulphuric and the hydrochloric (muriatic) acid may contain it. The first almost always contains some arsenic, when it is manufactured from volcanic sulphur, and the second, in consequence of sulphuric acid being used in the preparation of hydrochloric acid, yields the arsenic which it contains, in separating it from soda. We must, therefore, be certain of the purity of these re-agents." —*Edin. Phil. Journ.* as quoted in *Ann. Phil. March,* 1826.

69. *Action of certain Metallic Substances on the Animal Economy.*—Professor Gmelin, of Tubingen, has made a number of experiments on dogs and rabbits, to determine the action of particular metals on the animal system. The following are his results.

1. *Baryta.* The soluble salts of this earth, were found to act chiefly on the brain, spine, and voluntary muscles; the results agreeing with those heretofore obtained by Orfila and Brodie.

2. *Strontia.* This earth, though possessing so many analogies to baryta, hardly exhibits any poisonous quality.

3. *Chromium.* The saline combinations of this metal are active poisons, whether taken into the stomach or applied to a wound. The bichromate of potassa causes ulcerations on the hands and arms of the workmen, who employ it in dying.

4. *Molybdenum.* This metal was tried in the form of molybdate of ammonia. It produces, when introduced into the stomach, depressed action of the heart, occasionally strong convulsions before death, and, in dogs, at times, diarrhœa. It is less active than the last metal.

5. *Tungsten.* This metal has very little energy as a poison, and with reference to its physiological effects, may be classed with iron.

6. *Tellurium*. Ten grains of the oxide killed a rabbit in ten days, without giving rise to any particular symptom.

7. *Titanium*. Innocuous.

8. *Osmium*. This metal is an active poison. It appears to act as a corrosive and irritant, and produces no particular symptom, except a palsy of the hind legs.

9. *Platinum*. The muriate of platinum kills dogs, in doses of twelve grains, causing violent inflammation of the stomach and intestines. It has the same effect when injected into the veins; but what is very remarkable, no effects are produced on the general system or remote organs, when the same salt is applied to the cellular tissue, by means of a wound.

10. *Iridium*. The salts of this metal produce vomiting and diarrhœa in dogs, and in rabbits destroy life, apparently in consequence of inflammation.

11. *Rhodium*. Not very poisonous.

12. *Palladium*. This metal in the form of muriate is an active poison.

13. *Nickel*. This metal was tried in the form of sulphate, and does not appear to be an active poison. Its salts, like those of platinum, have no effect when injected into the cellular tissue.

14. *Cobalt*. This metal is allied to nickel in its action on the animal system.

15. *Uranium*. This metal was tried in the form of nitrate, and proved to be a feeble poison.

16. *Cerium*. The salt of this metal tried, was the protomuriate. It does not appear to possess much activity.

17. *Iron*. The experiments of GMELIN confirm the conclusions heretofore arrived at by chemico-physiologists, that the salts of this metal are the least poisonous of all the metallic preparations.

18. *Manganese*. The effects of this metal were found to be somewhat singular. The sulphate is not an energetic poison in the stomach, and still less so when applied to a wound; but it is poisonous when injected, in moderate doses, into the veins.—*Edin. Med. and Surg. Journ. July*, 1826.

QUARTERLY LIST

OF

AMERICAN MEDICAL PUBLICATIONS.

A Discourse on the Western Autumnal Disease. Read before the Tenth District Medical Society of Ohio, at Chillicothe, May 30, 1826. By John W. Vethake, M. D.—Chillicothe, printed by John Bailhache & Co. 1826, pp. 39.

Dr. Vethake occupies a considerable part of his Discourse, with remarks on the pathological state of the blood-vessels in fever, from which, we have only space enough here, to quote the following passage, which we commend, as well as his whole pamphlet, to the perusal of our brethren. "I have used the terms increase and decrease of arterial resistance; and, again, I have stated that an equilibrium of power and resistance must be supported during living being. Lest some confusion may arise from this apparent inconsistency, I will now again observe that there are several sources of this resistance, any one of which being removed or diminished in any part of the system, must be followed by increased fulness of that part, and this fulness compensates for the loss in the supporter of resistance, thus removed or diminished. An equilibrium is obviously sustained in all cases. If, by any capable cause, the vessels themselves are debilitated, they distend until they can distend no farther, or until the substance in which they are imbedded, resists farther fulness. Again, remove the compressing power of the atmosphere from a part of the body by means of the air pump, the vessels of that part distend. So it is in every possible case; and I therefore base every doctrine of inflammation and fever, on the literal signification of the term a diminution of *vascular resistance.*" p. 19.

By the application of Vacca's theory of inflammation to the pathology of fever, we think the profession will one day be brought to think alike on that subject, a subject which is now involved in complete darkness and confusion, by the discrepant opinions of the teachers of the age.

Observations on the Medical Character, addressed to the Graduates of the College of Physicians and Surgeons of New York, at the commencement, held on the fourth of April, 1826. By David Hosack, M. D., Vice President of the College, and Professor of the Theory and Practice of Physic, and Clinical Medicine.—New York, 1826, pp. 38.

This discourse, which enumerates many incentives to the performance of our duty to the profession at large, to each other as individuals, and to the sick, is well calculated to diffuse a proper tone of feeling among our medical brethren. Our attention has been attracted to the following passage, among others, equally marked by sound sense and good feeling.

"In some instances, the physician, with great injustice, and in violation of the obligations he enters into when admitted to the profession, permits his private misunderstandings with his fellow practitioners, to interfere with his duties to the sick, refusing to hold intercourse with a physician with whom he may be at variance, but whose abilities and experience he, as well as the world, cannot but acknowledge. No circumstance can justify this departure from duty. The physician is a public character; he holds an official station in the community; and, therefore, while professing himself a practitioner, cannot be absolved by any private considerations, from the discharge of the functions appertaining to that profession." p. 29. A good rule, and most particularly valuable in its application to those of our brethren, who live in thinly settled districts, where a consultation can be had with only one or two physicians.

A Letter to the Hon. Isaac Parker, Chief Justice of the Supreme Court of the State of Massachusetts, containing Remarks on the Dislocation of the Hip Joint; occasioned by the Publication of a Trial which took place at Machias, in the State of Maine, June, 1824. By John C. Warren, M. D., Professor of Anatomy and Surgery in Harvard University, and Acting Surgeon in the Massachusetts General Hospital. With an Appendix of Documents from the Trial, necessary to illustrate the History of the Case."—Cambridge, 1826, 8vo. pp. 142.

We formerly proposed to present an analysis of the "Report of a Trial," &c. &c. to which this pamphlet is an answer. Our subscribers will see, however, that we have already considerably exceeded the proper limits of this number.

The New York Medical and Physical Journal, for April, May, and June.

The Medical Recorder, for July. No. 35.

The New England Journal of Medicine and Surgery. July. Conducted by Walter Channing, Jun. M. D., and John Ware, M. D. *In Exchange.*

The Philadelphia Medical and Physical Journal. No. 24. August.

The American Medical Review and Journal. August.

The Carolina Journal of Medicine and Agriculture.

The Quebec Medical Journal. Vol. I. No. 3. July, 1826. *In Exchange.*

We take great pleasure in announcing this contemporary, which contains some interesting articles, of which, we regret that we could find only room enough for one considerable extract. A Medical Journal, well conducted, will, doubtless, find a liberal support in Canada, whose population must soon feel the beneficial effects of this literary enterprise, in the increase and dissemination of the Medical Sciences.

An Inaugural Dissertation on the Properties of the Apocynum Cannabinum, (Indian Hemp,) submitted to the Faculty of Jefferson Medical College. By M. L. Knapp, M. D. Licentiate of the Chenango Medical Society, New York. Philadelphia, 1826. Cited in our last, (vide p. 77.) but omitted in the list. An able Thesis.

Practical Elucidation of the Nature of Hernia, together with some remarks on the unfit Instruments hitherto used for its confinement. With an Explanation of the Experience, Utility, and Effectual Cures, of the Instrument now recommended. By A. G. Hull, M. D., Inventor and Patentee; Permanent Member of the State Medical Society, and late President of the Oneida Medical Society. 3d Edition. New York, 1826.

One of the Editors of this Journal has seen, and applied the Truss here alluded to, and is convinced of its possessing advantages of a very material kind. Having said thus much, it is not material to dilate upon the character of the pamphlet. Dr. Hull alludes, in more than one place, to the disapprobation of his professional brethren. "We have thus far, (in introducing a valuable instrument,) had the mortification to encounter the sneers of our brethren, and the independence to *disregard* them." p. 10. We shall not inquire into the statements "that the patentee's form of pad has been lately adopted by the first surgeons in London, and that trusses of his invention, are now manufactured and sold in London, as the *American Truss:*" p. 8.—or "that the Truss invented by the author, is approved of by the most eminent physicians and surgeons in Europe and the United States, particularly by the celebrated *Dr.* Astley Cooper, of London." p. 26.

Our author's title of "late President of the Oneida Medical Society," is a striking trait of the progressiveness of all things in America. This Medical Society, is actually situated in, what was very lately, the favoured seat of Red Jacket and Scanando.

The instrument is recommended in the strongest terms by the Oneida Society, by a committee of the New York Medical Society, by Dr. Nathan Smith of Yale, by Dr. Thacher, and by our cotemporaries of the Medical Review and New York Medical and Physical Journal, and also, in the depositions on a trial, made by Drs. Mott, Mitchell, Akerly, Pascalis, Beck, and several others.

Rules for the Government of the Pennsylvania Hospital. Philadelphia, 1826.

Caldwell on Fever, on alleged Medical Irreligion, on Yellow Fever, and on the Analogies of Disease. Noticed in our last.

These interesting essays, amounting to two small volumes and to 321 pages, were placed in the hands of a medical gentleman for a review; but we have not been yet able to present one. This has arisen in part, from want of time and of space; but in no small degree, also, from the copiousness and importance of the subjects of which they treat. Either of them might well serve as the text for a small review. We expect yet to present one, at least; and, in the mean while, will offer an account of their contents, and some remarks on one of them.

The "Analysis of Fever," is a statement, in 97 pages, of the author's theory of that disease; and is marked with the author's well known ingenuity, and perhaps with somewhat more of closeness in his style, than he has at all times manifested.

The "Defence of the Medical Profession against the charge of Irreligion and Infidelity," is a highly eloquent and poetical production. It ascribes great importance to what is called NATURAL RELIGION, and repels, with great animation, the charge, frequently alleged against physicians, of being disinclined to piety; maintaining with warmth, that a physician is more truly in his sphere and paying honour to the Creator, while attending at the bedside, than he would be in a place of worship; where he seems to think it unreasonable to expect the frequent presence of medical men.

We are prepared to say, at once, that we will not go into matters of polemic or theological discussion; and that we will never consent that our defence of the conduct of the profession, in this respect, should be based on the substitution of natural for revealed religion. We consider it, however, a thing of by no means unfrequent occurrence, to do gross injustice to physicians, on this point; and have often felt indignant, when men whose avocations are of a far less imperative nature, and to whom an hour in a place of worship, furnished only an agreeable exchange with their daily cares, and a means of getting rid of a portion of the Sabbath, have, in the plenitude of self-righteousness, thrown blame on the medical profession for unavoidable neglects.

With regard to the allegation, that the study of medicine leads to infidelity, we only say, that we apprehend that sound religion can never stand in danger, from the investigation of any kind of *truth*. We shall not go into Dr. Caldwell's eulogy upon the beauty and excellence of Natural Religion, for very obvious reasons.

The Dissertation on the alleged contagion of Yellow Fever, is a reply to the prize questions proposed by the Duke of Holstein Oldenburgh. We are not prepared with a full account of it, but we have for some time considered it a desideratum; as a great amount of knowledge on this point exists among us, unconcentrated and deprived of a part of its value. Judging from the points of which it treats, we should presume, that if Dr. Caldwell's memoir were to be published in Europe, with a detailed account of the data upon which it rests, much trouble might, at least, be saved to those who are now going over the same ground in Europe, which has exercised so many American understandings during the period from 1793 to 1805, and occasionally since.

The "Thoughts on the Analogies of Disease" are purely argumentative; not professing to enlarge the human treasure of fact.

AMERICAN EDITIONS OF FOREIGN MEDICAL WORKS.

Towar & Hogan, Philadelphia, have in press, the Elements of the Theory and Practice of Physic, by George Gregory, M. D., with Notes and Additions *adapted to the Practice of the United States*, by Nathaniel Potter, M. D., Professor of the Practice of Physic in the University of Maryland, and S. Colhoun, M. D., Member of the American Philosophical Society. In 2 vols. 8vo.

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